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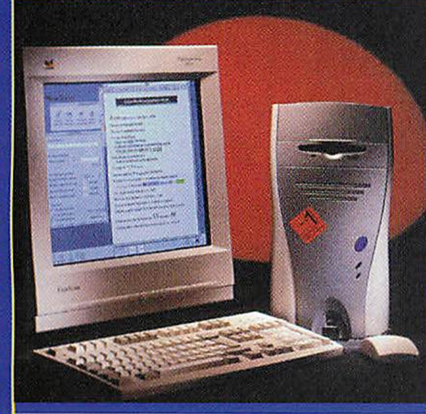




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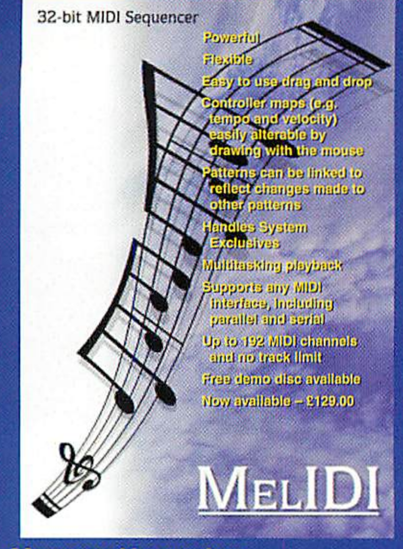
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Editor's Comment

It has been said that nostalgia isn't what it used to be. Here we are at the 250th issue of Acorn User (the 50th produced by Tau Press) and the 20th anniversary, and I am thinking that nostalgia isn't what's needed anyway. It probably has its place, but not here.

You won't find nostalgic pictures of how the magazine looked 20 years ago, information about previous editors and what they are doing now. Times change, people and things move on (though Steve Turnbull seems omnipresent, he didn't work on Acorn User until 1995 or thereabouts – even he can't remember).

That was a bit nostalgic so we'll stop that.

Instead we look to the future and find that, in fact, there is one. There is a big SouthEast Show, there is new software being released in various forms and, most important of all, there are new computers.

Microdigital are out in the open again, they have been to various shows, attended various club meetings and have even had a press launch with their new machines.

So times change, people and things move on. The same applies to Acorn User, from next month there is going to be change, no more Acorn User in fact – because the name is being changed. For many years there have been reasons to change the name, and reasons not to. Finally the former outweigh the latter, so a change will occur, starting next month. Watch this space.

Rob Donaldson
Editor

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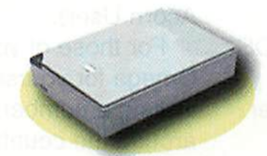
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Omega shows its teeth

It's been a long time coming, but Microdigital are taking Omega on the road to demonstrate the power and features of the new machine.

Full details of the first two UK appearances, at the Wakefield RISCOS Computer Club and the RISC OS North West User Group in Manchester appear later in this issue, but all reports so far is that its going to be worth the wait.

However, the burning question everyone is asking which is when will we be able to get our hands on one is still unknown (even to us at here at Acorn User).

For those of you wishing to see Omega for yourself, Microdigital will be visiting a number of user groups around the country, and also attending the RISC OS SouthEast show in November.

SE Show to go ahead

After the announcement that the ARM Club would not be organising a large show in the South East this year, a committee of user group members has been formed who are organising a one-day show for South East RISC OS users.

THE RISC OS South-East Show will be held on November 2 at Guildford College. Those expecting to exhibit already include:

- R-Comp
- APDL
- Castle
- RiscStation
- Virtual Acorn
- Acorn Publisher
- ITC
- Archive
- Fortan Friends
- CJE Micros
- Photodesk
- Icon Technology
- Serious Statistical Software
- and, of course, Acorn User.

Other likely exhibitors include Cerilica, Surftec, the Electronic Font Foundry, NetBSD and ExpLAN. Many others are expected to sign up shortly.

A number are sufficiently excited by the show that they are taking large stands and consequently, with four months to go the exhibition is already half full.

R-Comp told us to make sure there is a theatre since they will have some important announcements to make. They are releasing no further information, so you'll have to come along to the show to find out.

To add to the excitement, it is likely that RiscStation will have the portable on sale at the show. The organisers also hope to have Microdigital to show off the Omega. Add in the availability of USB interfaces from Simtec and we have the makings of a sensational show.

Put it in your diary now and visit the show Web site at **www.fillin.co.uk/seshow/**

New domains announced

Spellings Computer Services Ltd and the AAUG are pleased to announce that they can now register the newly-released .NAME top level domain name.

Pricing is the same as the other global TLDs (.COM, .NET, .ORG) as follows:

1 year	£25
2 years	£40
5 years	£100
10 years	£180

They have also reduced the price for the .ME.UK personal domain to £20 for 2 years, in line with the .co.uk and .org.uk domains.

All registrations include e-mail and URL forwarding, DNS hosting and all registry fees. You can check availability using their realtime domain search facility and all can be ordered securely online.

Domains can also be packed with of the SCS professional Web hosting solutions, which include PHP, SSI, CGI as standard. They can also supply more advanced options with your domain such as autoresponders, sub-domains, and SQL database support.

For futher details, visit their Web site at **www.spellings.net**

Emulator news

Acorn 6502 System One Emulator

Several months ago we reported on an Acorn system one kit resurrected by Mike Cowlishaw. He has now released a System One software emulator for Windows. The emulator runs the original Acorn monitor program, and so allows the development of programs exactly as on the original machine.

The intent is to preserve the general look and feel (and sound) of the original, while making it available to many more people than have the actual hardware. The Acorn design is an excellent platform for learning the basic concepts of computers and the skills necessary to program a computer using machine code.

In addition to the functions of the original Acorn kit, the Emulator provides:

- Simulation of a cassette recorder using MIDI files so you can hear how saving and loading of programs was done
- Save and load to PC files (which is much faster than tape)
- A mini-debugger, which lets you alter and view the internal state of the emulated 6502 CPU.

You can download the emulator from Mike's Web site at **www.cary.demon.co.uk/acorn/**

BeebIt update

Version 0.42 of BeebIt, the Freeware BBC emulator has been released. BeebIt emulates the Acorn BBC Model B, BBC Model B+ and BBC Master 128 computers and runs on RISC OS version 3 or later.

The following improvements have been made since 0.40 :

- ZeriBeep module has been fixed to stop random crashes.
- Video emulation improvements to better handle mid-frame CRTC register updates
- Added Screen Sprite saving on the

Save menu
- Pressing the Print Scrn key will now save a screen dump of the current screen
- Master Compact emulation added
- Modified OS memory read, for Master emulation, to allow MOS 3.50 to work

BeebIt can be downloaded from **http://homepages.paradise.net.nz/mjfoot/** under the BBC link.



ARM/Pace News

ARM have made a number of significant announcements this month, the main one being a licensing deal with Korean semiconductor and electronics goods giant Samsung Electronics Co. Ltd

In a deal though to be worth several million dollars to ARM, Samsung will gain full access to all intellectual property (IP) to be developed independently by ARM for future generation Samsung products.

ARM also announced a healthy rise in profits in their interim results. Interim pre-tax profits of £31.9 million compared with £23.6m a year ago, and Q2 pre-tax profits of £16.2m, up 33 per cent from £12.2m last year gave a brief boost to their share price, but at press time was still depressed along with the FTSE at 144p. Revenues for the first-half of 2002 were up 25 per cent from last year's £68.5m to £85.3m.

Pace falls to new lows

The value of Pace Microtechnology stocks reached a four-year low last month with shares bottoming out at 19p. More announcements on profit warnings, revised forecasts, combined with the recent redundancies, uncertancy in the UK Digital TV market and restructuring of the debt-laden cable operators have all taken their toll on Pace. This has caused several investment banks to downgrade their rating of Pace stocks from "Hold" to "Sell".

Meanwhile, Microdigital have posted a lengthy discussion as to why purchasing a 32-bit version of RISC OS from Pace wouldn't be possible on their "newsroom" section of their Web site. This is despite rumours circulating that another major vendor in the RISC OS market has done just that – I guess it's a case of watch this space.

User group roundup (part 1)

The Wakefield Club have an evening with Mike Cook on Wednesday 4th of September. Mike will be talking about and demonstrating the use of the Lego Mindstorm Robots under RISC OS.

WROCC Meetings open at 7:00pm for a 7:45pm start, at the West Yorkshire Sports & Social Club, Sandal, Wakefield, West Yorkshire. All visitors are welcome (for a small fee of £1.50). Mike's talks are usually very interesting and amusing with the occasional joke thrown in!

For detailed information on how to find the venue, visit **www.wrocc.org.uk**

The Belgium RISC OS group, RISCOS.be, September meetings will be on 13 September 2002 and 27 September 2002 at 20:00.

They can be contacted at Herentalsebaan 212, B-2100 Deurne, Belgium Tel: +32 (0)3 366.50.80 E-mail: **riscos.be@aaug.net**

Essex Acorn User Group has the following meetings forthcoming:

10th Sept 02 - "How to build a PC, if you really must!"

8th October - "20th Anniversary of the group's first meeting – NAMEBUG to EAUG"

For details of all meetings, visit the club's Web site **www.wattys.fsnet.co.uk/eaug/**

DARC (Derbyshire Area Risc Club) wish to remind all readers that they will be back to their usual "second Monday of the month" slot from Monday 9th September with the much anticipated return of our two resident Ovation Pro experts, Chris Dawson and Jonathan Robinson. This is the third such session and promises to show you some of the more advanced features of this excellent application.

The meeting starts at 7.30pm at the Parish Hall, St. Alkmunds Church, Duffield, (just off the A6 north of Derby) Derbyshire. Tea, coffee and biscuits are available during the evening. There is ample free car parking. A map is available on the Club's Web site at **www.darc-comp.org.uk** or e-mail **darc@aaug.net**.

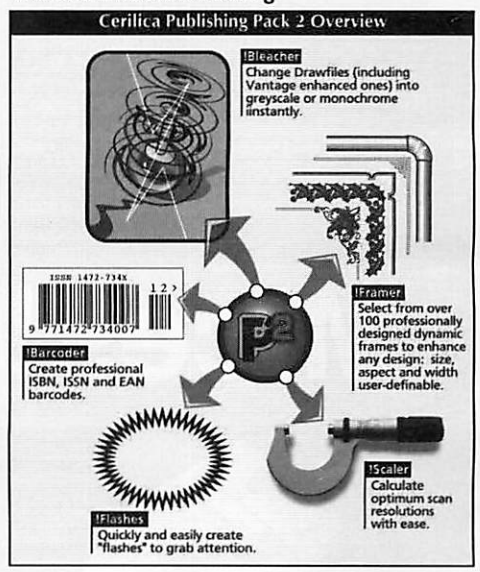
Cerilica Publishing Pack 2

Cerilica have released a new bundle of utilities for anyone involved with publishing on the RISC OS Platform. The Cerilica Publishing Pack 2 contains five software utilities ideally suited to working alongside any RISC OS design and publishing system and caters for the following:

- Create custom-sized frames from one of over 110 professional designs — instantly drop them into your DTP or design program
- Create professional barcodes complying with ISBN, ISSN and EAN guidelines
- Bleach (greyscale or monochrome) any Drawfile instantly
- Create sales/highlight flashes with only a few clicks
- Quickly and easily calculate optimum scan resolutions

For full details of the pack's contents, see www.cerilica.com/ppack2 The suite costs £29.00 inclusive of VAT.

Cerilica's Publishing Pack may be ordered by the usual methods direct from Cerilica in the UK (phone, e-mail, post, etc.) and is supplied by e-mail. Full ordering details may be found at **www.cerilica.com/ordering**



The RISC OS User Group of London (ROUGOL) will meet on Monday 16th September, from 7pm onwards, in the upstairs room of the Blue-Eyed Maid, 173 Borough High Street, London SE1 1HR (between London Bridge and Borough tube stations).

No specific topics have yet been suggested, but admission is free, everyone is welcome, and a wide range of snacks, meals and drinks will be on sale. For more information call 07876 035 495, visit **http://rougol.jellybaby.net/** or e-mail **info@rougol.jellybaby.net**

Need access to a PC but don't have space for a new monitor, keyboard and mouse?

Now With FREE VIRTUAL ACORN INSIDE

STEP 1 - Specify a PC base unit if you don't have one al

We can supply off-the shelf or custom PC base units to your requirements.

eg:
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- Athlon XP 1800+ CPU. 256MB DDR . 60GB ATA133 hard drive. DVD. CD rewriter. Geforce 2MX400 graphics £799inc VAT & Delivery

All machines come with internal modem. our Multimedia Keyboard. Wheel mouse and Loudspeakers.

- Windows ME or XP. add £80inc VAT. MS Works. add £20inc VAT.

STEP 2 - Add our Keyboard Controlled Switch

This miniature switch allows keyboard. monitor and mouse to be shared between two machines.
Modified for RISC OS macines. rated to 1920x1440 display. complete with all cables.

- Supplied as a pack including our PS2MouseMini interface : £99.95inc VAT (Was £113.90)
- Above pack when purchased with PC base unit: £90inc VAT (was £100)
- Keyboard Controlled switch alone: £89.95inc VAT (was £99.95)
- PS2MouseMini Interface (allows PC mice to be used on RISC OS machines): £18.95

(not to scale - it's about the size of two kitchen machboxes!)

STEP 3 - Attach to your existing RISCPC/A7000 and monitor

Add a networking pack if required.......
... and switch between the two with a couple of keypresses.

Mices! MMK! USB!









- STD Standard Mouse £19.95inc (Acorn mouse port. PS2Mini not req.)
- 3 button PS/2 mouse £5.95inc
- Genius Wheel mouse £12.95inc
- Genius OPTICAL mouse £17.95inc

Non-A7000 machines require our PS2MouseMini interface £18.95inc.

- Multimedia Keyboard
- For RISC PC / A7000 etc
- 19 Multimedia keys
- Complete with Drivers
- Click/non click versions

£24.95 inc VAT (was £34.95)

- Simtec USB Card.
- Supplied with keyboard mouse and joystick drivers.
- Drivers for other devices Available.

£79+del+VAT = £99inc

More User Groups

The RISC OS North West User Group (RONWUG) will meet on Wednesday 21st August and Wednesday 18th September, from 7pm onwards, at Trafford Metrovick Rugby & Cricket Club, Finnybank Road, Sale, M33 6LR.

At August's meeting there will be a demonstration of the RiscStation desktop's sound software, and the September meeting is likely to cover recent developments in RISC OS graphics software. Admission is free, everyone is welcome, and light refreshments will be available. For more information call 0161 969 9820, visit www.ronwug.org or e-mail info@ronwug.org

The ICENI Computer Club meet for a meal at the Crown Hotel in Manningtree(Suffolk) on Wednesday 21st August; and for a Photodesk Tutorial on Wednesday 4th September, and a talk by Paul Middleton of RISCOS Ltd on Wednesday 2nd October, at the Bourne Vale Social Club, Halifax Road, Ipswich IP2 8RE.

All events start at roughly 7pm, and admission is free for your first visit. For more information call 01483 728 881, visit www.archipel.demon.co.uk/ICENI/ or e-mail peter.l.dunn@btinternet.com

If you have lost contact with any user group, do remember to inform them of your contact details (particularly e-mail address) in case of any changes. If you're planning to change e-mail address or other details, do let user groups know in advance.

Remember that the AAUG offer their e-mail address alias service, where you can purchase an AAUG.NET e-mail address and this can be redirected to any ISP, allowing you to change ISPs without having to tell everyone your new e-mail address. See www.aaug.net

Pirate software permitted?

The Malaysian government may allow schools and other institutions to use pirated computer software, despite efforts to reduce widespread software piracy.

"For educational purposes and to encourage computer usage, we may consider allowing schools and social organisations to use pirated software," said Domestic Trade and Consumer Affairs Minister Muhyiddin Yassin. Officials have said that 66% of all computer software used in Malaysia in 2000 was illegal despite strict copyright laws that provide for offenders to be jailed for up to five years.

Software News

Steve Fryatt has released new versions of his Locate and Float software. Both are freeware and should both run on RISC OS 3.1 and later and have been tested on Red Squirrel and RISC OS Select.

Locate

Locate is a Desktop utility to search for files, directories and applications meeting a given set of criteria. It will match filenames using wildcards and will also compare size, age, type, attributes and contents; the idea is based very loosely on the 'Find files' utility in Windows and the equivalent on the Mac.

Version 0.70 has a few new features, in particular:

• The BASIC string length restriction has been lifted from the search paths, path lists can now be up to 4095 characters long by default.

• The way that dragging objects to the path list behaves has been improved (subjectively, anyway).

• When operating as a plug-in under Select, Locate no longer needs to put an icon on the iconbar and can quit once it has finished a search.

• Opening the search window is no longer necessary for plug-in searches.

These changes help make it more transparent as a Filer Action plugin. The new version of Locate can be downloaded from

www.stevefryatt.org.uk/software/locate/

Float

Float is a replacement Interactive Help client that provides help in small floating panes close to the pointer. Version 0.30 has a few new features over the last version.

As well as various bug-fixes, it now supports the WIMPSymbol font in help texts and a new 'Show all' option in the icon-bar menu will temporarily override the various 'hide' options in the choices.

The new version of Float can be downloaded from

www.stevefryatt.org.uk/software/float/

Image scout for more spam

Image Software have announced that the next release version of MailScout, the anti-spam and on-line mail interrogation package, is currently being beta-tested prior to release.

MailScout provides an on-line e-mail interrogation service which you can use to interrogate your mailbox and remove junk/spam before downloading genuine e-mails with your chosen e-mail fetcher thus saving you time and money.

Its powerful, user-configurable filtering system allows it to automatically identify junk mail, shaving more time off the interrogation process. Image Software are offering registered users a free upgrade to the new version in due course.

The new version provides many new features, most of which have been requested by users. New filtering options implemented. This version allows auto-flagging of certain types of e-mail:

- E-mail containing HTML (a lot of spam does as it comes from Windows machines)
- E-mail from non-RISC OS users. Particularly handy for those where 99% of their legitimate e-mail comes from others on the platform.
- E-mail sent to "undisclosed recipients" (almost always junk)
- E-mail sent to multiple/bulk users
- E-mail with an "errors-to" header field (spam systems use this to trap returned/undeliverable mail)

There is also much needed integration with POPstar/DialUp. On an e-mail fetch, MailScout is automatically loaded and begins scanning the mailbox. Once you have removed any spam/junk from the server through the summary window,

MailScout automatically runs POPstar to fetch the remaining e-mail, before quitting itself. With DialUp this works in both normal and QuickFetch mode for extra efficiency.

This integration shaves valuable time from the connect-scan-download process and makes it much more user friendly.

MailScout is available direct from them for £25 (fully inclusive). Support and upgrades are made available free of charge to registered users.

Image Software (UK)
48 Hinchliffe Road, Poole,
Dorset BH15 4ED
Tel. 01202 269720
Mob. 07740 622861
Fax. 01202 685072
sales@imagesoft.co.uk
www.imagesoft.co.uk

LogosWord 4.0

LogosWord is a Bible Study software suite for RISC OS, facilitating the study of Bible texts, commentaries, dictionaries, lexicons and other resources.

LogosWord version 4.0 has been released and is now available for purchase and download at www.logosword.co.uk including a free 14 day demonstration version.

Version 4.0 provides many new features, including online help, support for the New Testament Greek Interlinear module, verse alignment across columns, and much more, and a lower price!

Also, the selection of translations has been massively increased since LogosWord's early days, and other resource modules have also been added to the collection.

The author has also been given permission to provide the text of GOD'S WORD, "the translation for the next generation", a highly acclaimed modern translation , to the list of translations freely available for download,

Other platform news

RealNetworks to push free MP3 rival

RealNetworks, which recently put its player source code into the open source camp, will include an open source rival to the popular MP3 music compression technology in its audio players. This means that people will soon be able to play content encoded with Ogg Vorbis technology through the widely distributed RealPlayer without having to download special Ogg Vorbis software.

WinAmp, a popular Windows music player distributed by AOL, also supports Ogg Vorbis, but Microsoft's Windows Media Player doesn't support the format. Although there are no RISC OS players yet, Dave Ward has ported some Ogg Vorbis conversion utilities which can be downloaded from his Web site at www.sparkplug.org.uk. However it's only a matter of time before the RISC OS MP3 players are updated to support this new format given the source code is freely available to developers.

The RealNetworks announcement is a big win for the now-obscure technology. MP3 has become enormously popular thanks to its small file size and good quality. But manufacturers of music players pay royalties to the Fraunhofer Institute for Computer Graphics and other members of the MPEG Consortium, which control the format.

Having a player on every desktop means that users should have little problem in ripping, using, and trading Ogg format songs. As hardware gets cheaper, the price of royalties becomes a big part of the cost of a player. If the format takes off with consumers, player manufacturers can potentially drop the MP3 format and save the royalties. Ogg Vorbis music compression is also a potential threat to the projected MP4 royalty flow.

Open source software is a phenomenon that's hard to understand. Money is the universal proxy for value. But the reward to open source programmers is the less tangible but real sense of contribution to group goals, and the status awarded by their peers for a job well done.

Loyalty to a group is powerful motivator because it goes beyond money. It is used by the military in the form of "unit cohesion." In business, leaders also work hard to develop commitment to the team as a way to get people to offer their best. Money-motivated people just don't "get it", not everybody has a price.

www.vorbis.com

MPEG-4 standards

MPEG LA, a group of patent holders governing MPEG-4, finalised licensing terms for the media delivery standard. MPEG-4 is the successor to MPEG-1 and MPEG-2, the technologies behind the MP3 audio explosion. Like its predecessors, MPEG-4 comprises audio and video technologies that condense large digital files into smaller ones that can be easily transferred via the Web.

MPEG-4 adoption had been stalled by a disagreement over licensing fees. Under the new terms, owners of Web content can license the latest video and audio compression format for 25 cents per subscriber or 2 cents per hour, subject to a $1 million annual cap.

Content owners with fewer than 50,000 subscribers aren't subject to royalties. The fees are applicable to Web site operators that benefit commercially from use of the technology, through paid advertisements, pay-per-view services, or subscriptions.

MPEG-4 is a group of advanced data transmission protocols that enables data to be transmitted securely, flexibly, and efficiently across networks. It will be used in next generation cell phones, streaming video, and wireless networks. One of the interesting technical features of the protocol is its ability to flexibly stream program objects such as a newscaster image, his desk, and the background as separate objects and reassemble them at will at the endpoint. This will help the protocol get rid of things like buffering delays that are a prominent feature of current streaming techniques.

The early growth of the Internet was due importantly to the willingness of intellectual property owners to forgo royalties in order to grow the industry. Engineers used TCP/IP as the basic data transport protocol, HTML, and the first Web browser, in part, because there were no royalties for its use. Foundation software tends to be royalty-free, so that everyone adopts it, with money being made on advanced proprietary versions of the foundation. MPEG LA broke this pattern. "Money talks," they said.

And it did, maybe.

Robot with people skills

Researchers at Carnegie Mellon University have developed a robot with some people skills. The six-foot robot, GRACE, will appear at a symposium on artificial intelligence. Its digitally animated face appears on a computer display, and it uses laser and sonar components to move out of people's way. Its camera vision system and speech recognition software recognises human hand gestures and words, and its artificial intelligence gathers the data to discern how to react.

New chip is chicken

Researchers in the University of Delaware have developed a chicken-feather. The chip is made from soybean resin and feathers made into a composite material that looks and feels like silicon.

Electrical signals move twice as quickly but problems remain, including the natural bumps and irregularities that come from using an organic base. "The microchip industry depends on materials that are ultra-smooth and ultra-flat," said Dennis Prather. "This was anything but that."

Border collies, planets and potato salad

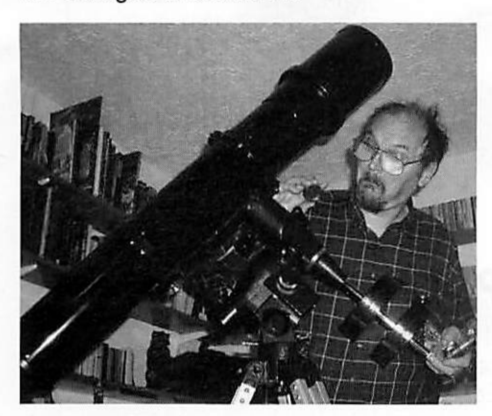
Jochen Lueg is a name that regularly appears in the RISC OS news, and the man himself has many interests, some of which surface in his RISC OS software. German by birth, Jochen discovered Limavady in Northern Ireland in the Sixties, quickly fell in love with the place and has been living there happily ever since.

Limavady is in County Londonderry close to Lough Foyle and the Atlantic Ocean, and the River Roe flows past the town in the foothills of the Sperrin mountains. Jochen taught Electronics and Computing at Limavady College until 2001 when he retired, and now concentrates on RISC OS programming, reading, local history, astronomy and his passion for Border Collies.



A hard choice, programming or this?

Jochen's Web site offers a varied selection of his own Shareware and freeware programs for RISC OS, mostly clearly written in BASIC. Astronomy is featured in several, such as Planets which allows you to play creator of a three body planetary system. ByJupiter shows that animation of actual NASA Galileo probe pictures as it goes into orbit around Jupiter, and Lunation shows the changes of the moon.



Jochen and his six-inch refractor

Web site authoring tools include FSI_Batch, which harnesses work-horse ChangeFSI to batch-process up to 200 image files while you enjoy the riverscape above, and MoveSite which will convert RISC OS filenamed and filetyped HTML files to PC-friendly names for easier cross-platform checking.

Time-keeping is another subject covered by Jochen. OvalTime is the software part of a constructional radio-controlled clock project for Acorn machines using the MSF standard frequency and time transmissions from Rugby. Using a different time standard, AtomZeit decodes and displays the output from a radio clock receiving the Frankfurt DCF77 atomic clock signal. Of course you need a suitable clock and the interface for it which is also described on the Web site.

Finally, don't miss the recipe for GrandMa Lueg's Famous Potato Salad, which contains potatoes, eggs, olive oil and other natural ingredients. You'll have to look at the site for the method and quantities, it sounds delicious.

ICS for RISC OS

Darren Windsor's latest proxy server application for RISC OS has taken on a new slant with the addition of user-configured port proxying. What this mouthful of jargon promises is a form of Internet connection sharing, similar in effect to ICS enjoyed, or wrestled with, by Windows users, which transforms an Internet-connected PC into a NAT (Network Address Translation) router.

Image Software's ImageProxy was originally intended as a dedicated caching proxy server for the Oregano Web browser, helping to speed up return visits to previously-seen pages. Improvements to the program now allow the user to configure various port numbers to be proxied, effectively allowing many PCs on a home or business LAN to share one Internet connection for SMTP and POP mail as well as Web browsing.

This isn't quite the same as NAT routing, but the results can be similar. Existing registered ImageProxy users can receive a "work-in-progress" upgrade with some other bug-fixes and improvements by contacting Darren at Image Software.

Image Software
Web: www.imagesoft.co.uk
E-mail: sales@imagesoft.co.uk

David Dade
comms@acornuser.com

In brief

Change of Address

A side-effect of the Arcade BBS upgrade to "always-on" Demon Express Solo ADSL Internet connection is that the IP address of our sub-domain name, arcade.demon.co.uk has been changed. Normally this would not raise any problem as the whole point of Internet DNS (Dynamic Name Service) is to allow computers on the Internet to be accessed by name rather than number or numeric address.

For some years, Internet-connected owners of RISC OS dial-up terminal software such as !Hearsay, !Connector and !Arcterm7, have been able to download a customised "Block Driver" created for us by Hugo Fiennes. The Arcade block driver bestows a basic Telnet protocol to those programs, making a separate Telnet application unnecessary for logging-in to the BBS over the Internet.

For simplicity, the IP address of Arcade BBS (rather than the domain name) was "hard-wired" into the driver code, and after the ADSL upgrade this would no longer work. Happily this driver now employs the new ADSL IP address and is available for download on the Arcade BBS Web site and from the BBS filebase.

Arcade BBS Telnet Block Driver
http://arcade.demon.co.uk/files/cadebd.zip

Test yourself

Slow response from ISPs when trying to fetch e-mail is largely due to the mountain of spam and Klez virus-infected mail that's criss-crossing the globe and clogging up mail servers. The phrase "Open Relay" crops up very frequently in this connection, which refers to poorly set-up SMTP mail servers often owned and operated by customers of affected ISPs.

Unless precautions are taken, spammers can detect remotely if an unsecured open SMTP port is available for onward relay of dastardly data. You can check whether your system is secure in two ways. You can either ask a friend to try to relay a message through your system, or consult abuse.net.

Their mail relay testing service will attempt to relay a message through your server, which must be online at the time. Their message will be addressed to you, so if the server being tested normally accepts mail for that address, you can choose a temporary address in their abuse.net domain that will be forwarded to you. Registration is required for this service, which can be found at:
www.abuse.net/relay.html

Making an Impression: Business Stationery

First impressions last. No matter how impressive your business actually is, if a potential client's first encounter with you is a bored telephonist, or a shabby reception area, or a letter scribbled on a scrap of paper, they receive a message about you and your business. That's what they'll remember long after they've forgotten your sales pitch, right or wrong, it's often the way it works.

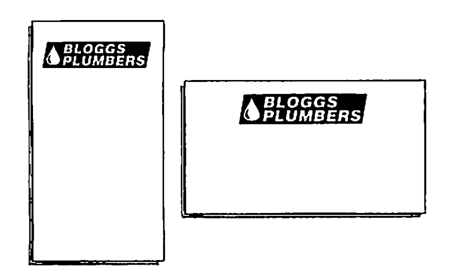
It matters how your business looks and sounds. It matters that people feel you can do what they are paying you to do. If you look professional you'll be perceived as being professional. The letters you send, the business cards you hand out, your leaflets, even your company van if you've got one, all help to convey the subtle, reassuring message that you know what you are doing.



Last month we looked at simple logo design, and a logo can be a useful design device to hold together a stationery range. Let's assume you have a logo; here we'll use the Bloggs Plumbers 'drip' logo from last month and apply it to our range of stationery.

Business Cards

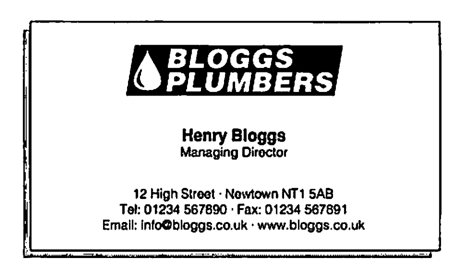
There are only two ways that a business card can be orientated, landscape (wider than tall, the most common layout) or portrait (taller than wide), so first thing is to make a choice of which one you're going to start with. Draw a rectangle in Draw or



Artworks 9050mm (I almost always make business cards this size; I feel the proportions are pleasing and, importantly, it fits nicely into a wallet or credit card holder).

Copy it and rotate it 90 degrees: these are your possibilities. Copy your logo into the boxes and resize it. How big you make it will depend on the shape and look of your logo, but certainly don't ever make it larger than half the width of your card. The logo will usually be smaller in portrait orientation.

I think the Bloggs logo looks better in landscape format, so I discard the other and start designing. Our logo includes the company's name, so it's going to be one of the most important elements. Other elements are your name and contact details.The text on a business card can be



much smaller than you imagine, giving you an opportunity to introduce the designers trick: white space. First I'll add the address in a conventional way by centring everything:

I have placed the logo at the top of the card and the contact details at the foot, leaving a good margin from the edge of the card. The address in a plain, legible font (here it's Hull Light) at 8 points. It could have gone down further, but it looks fine at that size. The name needs to stand out a bit more than other text, so I've made it bold and slightly larger.

I have then placed it exactly between the logo and address. This puts together everything that a client needs to know in a fairly attractive layout. Once you have settled on a design, it's possible then to recreate it in a DTP application such as Impression or Ovation, if it's easier for you to work in that environment.

A word about colour: a colour logo looks better than one in black and white, so do go for a colour printing. If your colour is a strong one, such as blue, you could have the text in the same colour. Just make sure it can be easily read, or it defeats its purpose. If your logo is a weak colour such as yellow, you'll need to make the text another colour, which will push the print cost up. However, a two-colour business card, albeit subtle, does give it more class.

It is possible to be a little more adventurous if you want to stand out it bit more. Let's try to move away from the conventional layout: I'll start by moving the

BLOGGS PLUMBERS

12 High Street
Newtown NT1 5AB
Tel: 01234 567890
Fax: 01234 567891
Email: info@bloggs.co.uk
www.bloggs.co.uk

Henry Bloggs
Managing Director

logo to the left-hand side. The logo is slanted towards the right, so I'm going to use an italic font to echo this. That leads to another idea: I'll align the right-hand edge of the text with the slope of the logo, giving a striking diagonal line to the design. I'm using the block of text as just another design element.

Now we have the whole of the right side of the business card in which to place the name, and again it's bolder and slightly larger. When the recipient looks at the card, the first three things that will be noticed are the logo, the name and the white space which gives the information room to breathe in an inviting, uncluttered way.

Letterheads

Letterheads will parallel the design of your business card, but because it's on a sheet of A4 paper the logo and text have got plenty of room and can be larger in size. 9-11 points is sufficient for the contact details. Legally you need the address of the business, the name of the proprietor and, if it's a limited company, the registration details. You don't want to encroach into the space which will be seen in a window envelope, so test it before making a final decision.

Many people put the contact details at the foot of the letterhead, and this means you can have little more than the logo at the top of the sheet, making the design cleaner and more impressive. Another



12 High Street
Newtown NT1 5AB
Tel: 01234 567890
Fax: 01234 567891
Email: info@bloggs.co.uk
www.bloggs.co.uk

possibility is the logo and address in the top right-hand corner, leaving the left-hand side for your client's address.

Once you have designed yourself a logo, use it. Plan a co-ordinated business stationery range which is also an efficient marketing tool, representing your company in a simple, but convincing fashion. Aim to make a good first impression, because first impressions last.

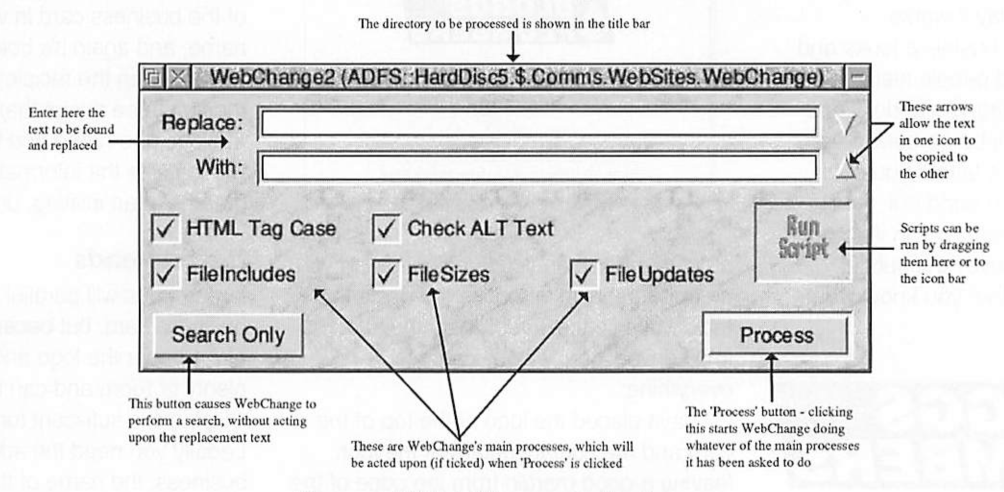
Nigel Gatherer
graphics@acornuser.com

WebChange

The website maintainer's tool

WebChange is an application designed to help with the maintenance of websites, and is particularly suitable for those who prefer to modify their HTML by hand in a text editor, giving them full control of the HTML itself, rather than just the layout and content.

The software provides the user with a number of functions designed to simplify those tasks which might otherwise be repetitive in nature, such as changing a simple item of text on every page - but that very simple example is merely the tip of the iceberg.



Some of WebChange's features:

- **Search and Replace**
  Replace the same piece of text on each and every page of a site on which it appears.
- **Tag Case Conversion**
  Change the case of all HTML tags between upper and lower case at will.
- **Newline Conversion**
  Change newline codes quickly and easily between the formats used on different platforms.
- **File Date References**
  Check the datestamps of specified files, insert them into web pages, to show when they were last updated.
- **File Size References**
  Insert the sizes of specified files into web pages, to show visitors the size of files they may wish to download.
- **File Inclusion**
  Maintain a consistent look and feel across a site by keeping recurring HTML in separate files, to be inserted when updated.
- **ALT Text Insertion**
  Check that all images have some form of ALT text, inserting something if not.
- **Indexing**
  Generate an alphabetical index based on keywords in HTML tags.
- **Validation**
  Simplify the submission of pages to an online validator by generating a file containing a link for each page.
- **Filename Case Conversion**
  Change the case of all filenames from between UPPER, lower and Proper case, quickly and easily.
- **Filename Extensions**
  Change the .extensions of filenames between long (.html, .jpeg), short (.htm, .jpg) or none at all.
- **Script Language**
  Use WebChange's script language, to carry out any number of its built in functions on the local copy of a site, one after another.

SPECIAL OFFER

IN CELEBRATION OF ACORN USER'S BIRTHDAY

WebChange for RISC OS can be purchased for £12.00

(Offer valid until 30th September, normal price £15.00)

To order, simply send a cheque or postal order for the above amount to:

Soft Rock Software, 124 Marissal Road, Henbury, Bristol, BS10 7NP

(Please provide a valid email address - the software is normally supplied as a download from a password protected website, to which you will be sent access details by email)

For more details about WebChange, please see the website at http://www.webchange.co.uk

Omega at last?

MicroDigital have continued their publicity drive to bring the working Omega prototype to a wider audience. Following their appearance at the Dutch RISC OS Expo in June (covered in last month's Acorn User), and the Wakefield user group shortly afterward, the middle of July saw a visit to the RISC OS North West User Group in south Manchester, as well as a presentation to the RISC OS press which took place in Bradford. Acorn User attended both events to keep up with the latest developments.

The first question everyone asks David Atkins is still, quite simply, "when?". But he is sticking to his policy of not making any more predictions about dates for the arrival of production systems, until assembly is actually under way. (On the other hand, the rumour from the MicroDigital camp that deliveries might start in September still hasn't been officially denied).

As at the events in Utrecht and Wakefield, what was shown in Sale and in Bradford was a fully working Omega prototype running RISC OS 4.03. Sound support is not in place on the prototype, and David reiterated that the production machines would also benefit from a faster memory bus, disk interface, and Lightning code enhancements as compared with the prototype.

Reliability and compatibility

MicroDigital now have a well organised set of sample applications, with example files, to run on the demonstration computer. In action on both days were Impression Publisher, Artworks, Vantage, Sibelius, EasiWriter, the "built in" RISC OS applications, and a few other programs.

One of the things which struck me about both of the mid-July demonstrations was that the system seemed to be even more reliable than it had been the previous month. With all of the above applications loaded and in use simultaneously (easy to do with 192MB of RAM), the system didn't manage a single error message or crash.

A Risc PC should in theory be able to do the same (albeit more slowly), but many Risc PC systems these days are not quite as reliable as they used to be, following the long series of upgrades to keep them up to speed. So it was nice to see even a "prototype" machine that seemed totally reliable (the audience did manage to make the system crash later, after some experimentation).

In addition to these applications, I asked David Prosser (the engineer responsible for the technical design of the Omega) to run Artex's new game Tek 1608. Historically, games have always been the most troublesome applications when upgrading hardware or operating systems, so I was interested to see whether the same would hold true here. I was pleased to see that the game did indeed work (this was the unpatched version), with no problems other than a small redraw glitch.

David Atkins commented that this sort of reliability shouldn't be a surprise, and that we shouldn't expect the Omega to have similar reliability problems to an overstretched Risc PC, as it is a totally different machine. When asked about software compatibility problems, he said that MicroDigital themselves had not yet found any piece of StrongARM and RISC OS 4 compatible software which doesn't work on the Omega, though he said he couldn't rule out the possibility that some such software may exist somewhere!

Omega performance

Assessments of performance are rather difficult to carry out subjectively, and I'm not yet aware of any comprehensive benchmark figures available which might be used to compare the Omega with previous RISC OS computers. David Atkins, always keen to add a curious simile or metaphor into any presentation, said that the most noticeable difference between the Omega and a StrongARM Risc PC would be like emptying a bottle with a wide neck rather than emptying one with a narrow neck.

Once again, the loading sequence of Artworks drew most attention from the audience as being dramatically faster than a StrongARM Risc PC, and again no-one was really sure whether this was due to the prototype's faster disk interface (which is still far short of that promised for the production Omega), the 306MHz StrongARM, the faster memory access, or the different memory and video architecture.

Various tests with drawing and manipulating objects in Draw and Artworks were duly carried out, but we still await the results. Either way, the Omega performance jury won't return with a unanimous verdict until we get our hands on review machines.

However, the Omega incorporates a very wide range of speed improvements compared with StrongARM or Kinetic systems. These include the processor memory access (four times faster than StrongARM systems), PCI card and IDE interface throughput with a similar advantage over the Risc PC's seriously outdated podule bus and IDE interface, MicroDigital's dedicated graphics and memory controller hardware with 133MHz 64-bit memory access where necessary, and several less significant enhancements (for example, the SA-110 runs significantly faster than the current Kinetic system and very slightly faster than the fastest 300MHz Kinetic systems).

Whatever the exact outcome of all these improvements, it looks likely that their combination will produce a system with all the colossal performance impact that a StrongARM upgrade had on us ARM610 users back in 1997. Such potential speed increases don't include the X-Scale upgrade, which is a separate chargeable option, and is discussed further below.

Correction

While I discussed the demonstrated screen resolutions of the prototype Omega in my last article, it is worth pointing out that the promised capability of the production systems is considerably higher specification than shown in Holland. Another point to note is that, although 1800x1440 screen modes were mentioned in discussing the prototype's capabilities, the Omega systems will certainly not be limited to that as a maximum resolution.

MicroDigital have always been keen to emphasise that their decision to develop their own custom graphics hardware was influenced by a feeling that available PCI graphics cards didn't provide the graphics performance they felt would be necessary.

Features and schedules

Because the Omega is what MicroDigital describe as a "soft" computer (meaning that the functionality of the FPGA components can be changed using software), the basic systems can be shipped first, and some of the functionality added via downloadable software upgrades later.

It has been explained previously that not all the promised features will be available when the first systems are sent out. In particular, the hardware acceleration of JPEG and MPEG operations performed by the Lightning chip will be made available by softloadable upgrade later.

However, David Atkins said that the production machines would ship with sound support, ethernet, and PCI modem support, as a minimum. This should be plenty to get started with, and the rest of the promised functionality is intended to arrive as softloadable upgrades "by Christmas".

At the July demonstrations, David passed around the PC on a PCI card, or "single board computer", which is planned to be available as an add-on for the Omega. Other good news is that a PCI card with USB 2.0 will be available as an option (the system itself includes USB 1.1). A choice of PCI SCSI cards, with maximum throughput up to

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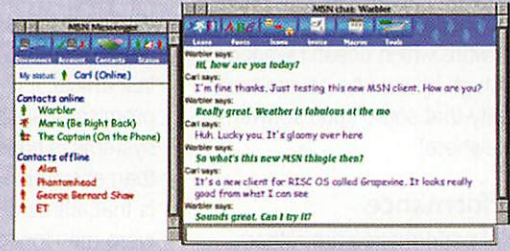
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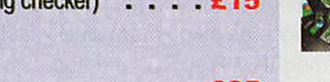
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40MB/second, will also be available; this will be a major leap forward when compared with similar cards for the Risc PC which can only manage around 8MB/second even under the best of circumstances.

No news on Select

RISC OS Select has had a very good take up from exactly the users whom one might expect to be interested in purchasing the Omega, so it came as a surprise that MicroDigital still had no news about how well RISC OS 4.29 and later would run on the system.

David Atkins said that MicroDigital had not made any attempt to test RISC OS Select on the Omega, and had no plans to do so (although individual users may do so themselves, as the RISC OS Select licence provides for it).

However, RISCOS Ltd have recently announced the availability of a release version of RISC OS Select for MicroDigital's Mico computer; so perhaps a Select release for the Omega will follow in similar fashion, helped along by the greater weight of user numbers of the Omega compared with the Mico. (This is one occasion where the lower cost product is not the higher volume product!)

Other operating systems

MicroDigital have made clear that they are supporting efforts to enable Linux to run on the Omega. They have not yet mentioned any such efforts to port NetBSD, but it wouldn't be surprising if such a project appeared quite quickly after the release of the system.

However, David Atkins categorically rejected suggestions that the Omega might suffer by its primary operating system not being "open source", more widely available, or controlled by larger companies. He said that no commercial customers had expressed a desire to purchase MicroDigital systems with Linux, or any other operating system, rather than RISC OS.

On the potential concern that MicroDigital, RISCOS Ltd, and even Pace are rather small companies, David said that there are huge advantages in being a smaller company. In his view, a very small number of highly skilled engineers can often complete the same amount of work as a much greater number of engineers in a "conventional" company, where huge wage bills can suddenly overwhelm any profits. (Those who have observed the world's larger computer companies reacting to losses by culling legions of employees might agree!)

He also said that every step of the Omega's development has been accompanied by detailed documentation, so the apocalyptic scenario of losing the one essential engineer wouldn't destroy all the work that has been done. Other less obvious investments against the potential problems of licensing from relatively small companies have apparently also been made, but no further details were released.

X-Scale and ARMTwister

The promised X-Scale upgrade for the Omega allows software which is fully 32-bit compatible to run on the much faster X-Scale processor, while software which requires 26-bit mode (this includes most of the operating system) can run on the SA-110.

Microdigital have not yet demonstrated any aspect of this functionality (known as "ARMTwister"), and they now decline questions about its detailed operation to avoid giving away details to competitors. At the Wakefield 2001 show it was said that David Prosser had implemented similar systems before, so should not find the work very time-consuming.

It has been questioned whether such a system will be efficient in practice, or whether the undoubted speed advantages of an 800MHz X-Scale (as compared with a 306Mhz SA-110!) might be eaten up in the interpreting of code to switch between 26-bit and 32-bit CPU as necessary. Both processors would have to share the same memory access in order to co-operate.

However, some of these concerns sound very similar to the doubts raised back in 1997, when people said that the original Acorn StrongARM upgrade wouldn't be worthwhile because the Risc PC memory bus had not been designed with such a fast processor in mind.

These doubts proved to be groundless when the upgrade produced extraordinary speed improvements (often nearly linear with the clock speed increase) for a huge range of RISC OS applications. So perhaps we will see the same again with the promised X-Scale upgrade.

StrongARM availability

A common concern raised about the Omega, or any other RISC OS system which requires a 26-bit version of RISC OS, is whether the supply of ARM chips which support the current versions of RISC OS (in this case the SA-110) will one day dry up. These processors are now quite old, and there have been many rumours about their demise.

However, David Atkins pointed out that old processors do not disappear quite as fast as people seem to imagine: you can still buy the original 6502. The rumours about the supposed imminent death of the StrongARM have now been around for so many years that they are starting to lose their credibility.

With StrongARM processors only costing a few tens of pounds each, it wouldn't be very difficult for MicroDigital to lay in sufficient stocks to last the entire lifetime of the Omega if necessary, much like other products such as Risc PC StrongARM upgrades are sometimes produced in huge batches sufficient to last many months. As David said in answer to quite a few different questions about potential problems, "we wouldn't have invested all this money without taking appropriate precautions."

Project "Yellow"

As mentioned in last month's Acorn User, MicroDigital's "Spectrum" development programme covers more than just the Omega, which only fills the slot entitled "Green". The "Yellow" motherboard again uses an SA-110 of roughly 300MHz, this time with DDR (Double Data Rate) SDRAM at 266MHz, and a simplified single chip variant of the Lightning chipset also used in the Omega. There is support for driving an LCD, two serial and six USB ports, ATA100 IDE interface and 100Mbit networking, but no PCI interface.

This "Yellow" system is seen as lower end than the Omega motherboard, despite the faster RAM. Rather like the ARM7500FE systems (A7000+, RiscStation, Mico) which emerged after the Risc PC but never equalled it in processor power, this low end motherboard has faster memory purely because of its more recent development, but mostly inferior capabilities otherwise.

MicroDigital had previously mentioned embedded applications such as point of sale terminals as the market for the "Yellow" motherboard, but at the presentations in July it was also revealed that it would be used in a specialised system for teaching of control in ICT and related subject areas in schools. This avoids presenting the system as a "desktop computer", where most schools have already been forced into fixed policies, but still allows a foot in the door for RISC OS solutions.

Project "Blue"

While Yellow is the system of lower specification than the Omega, "Blue" is the next rung up from the Omega on the performance ladder. David said that it would use a Xilinx Virtex 2 FPGA with a million gates, whereas the Omega uses two smaller Xilinx FPGA chips with a total of around 400,000 gates. The result is that MicroDigital's "Blue" system can have colossal power for specific applications.

Blue will have some of the Omega's optional add-ons as standard items, including USB 2.0. Not only will an X-Scale processor be available as an upgrade (in addition to the built in 300MHz SA-110), but

a floating point co-processor upgrade will also be available. This huge amount of power, the vast FPGA in particular, is required for the medical imaging markets for which a Japanese company has specified the system.

Yellow and Blue not desktop

Both Yellow and Blue are intended as OEM motherboards, that is to say, they will not be sold as complete systems. When asked whether either might be sold in the RISC OS desktop market, David made it very clear that the Blue product was far too powerful and costly to appear in such form, each individual system could cost between five and ten thousand pounds.

David said it was conceivable that the Yellow motherboard might one day be released as a cheaper RISC OS desktop computer. Although it has no support for keyboard, PS/2 mouse, parallel port or PCI connectivity, the USB ports and two serial ports would give it the capability to meet the requirements of basic desktop usage. (Its StrongARM processor and fast memory and disk interfaces mean that in performance terms it would be far more powerful than current low end RISC OS machines).

However, David emphasised that, while a desktop version of Yellow is theoretically possible, there are no plans to prepare for one. Understandably, the release of the Omega remains the top priority, and it seems that the Omega is likely to benefit from some of the work being done for the other projects, for example the promise of USB 2.0 support.

Omega marketing revisited

I commented on MicroDigital's marketing plans for the Omega in a previous article, and I've been pleased to see that they have extensive plans for publicity which go considerably beyond what I had heard about thus far.

The events in Holland, Wakefield, Manchester, and Bradford look likely to be followed by one or more similar presentations of the working prototype in southern England, and perhaps other parts of the UK.

We can also presumably look forward to seeing the Omega at some future RISC OS shows. (MicroDigital are not always as keen on appearing at shows as other hardware manufacturers, partly because of the amount of time it takes out of the development schedule of such a small company).

All of these presentations thus far have been very well attended, with the press event drawing representatives from every single RISC OS magazine as well as from the My RISC OS Web site, with several attendees having travelled hundreds of miles to be there. David has said that the interest and enthusiasm shown at user group meetings has been very encouraging.

Awareness of the Omega looks set to grow apace once production machines start reaching customers, and word of mouth and magazine reviews become as relevant as presentations from the company itself. However, David does not intend just to sell to the converted, viewing advertising in RISC OS magazines as largely unnecessary due to the huge awareness of the Omega in the RISC OS market already.

What David does plan is something that has not been seen in the RISC OS and Acorn market for a very long time, namely a renewed attempt to reach ordinary desktop users outside the RISC OS market. He said this would include (for example) double page adverts in mainstream PC magazines; a welcome change after all these years, and one which may even encourage such magazines to be a little less narrow minded in their editorial as well.

While such advertising may not result in a mass exodus from the desktop Windows market to RISC OS, even a small number of converts would be welcome. Alongside this, general awareness of MicroDigital technology is useful in drawing the attention of third parties who may be interested in OEM products like the Yellow or Blue motherboards.

David takes the view that the desktop PC market is in an unhealthy state where sooner or later they will be forced to look at alternatives to the existing Wintel dominance. A few years ago the response from mainstream PC magazines when told about RISC OS products was "RISC OS? Never heard of it", but now David tends to get the response that the magazines have heard of RISC OS, but don't want to hear about products that use it.

David sees this as a "head in the sand" attitude, and believes that sooner or later the market will return to a situation where mainstream computer magazines will have to make the effort to understand and cover a wide range of platforms, rather than just two or three.

MicroDigital have also been very pleased with the response to the "newsroom" online at their Web site, where David brings his own unique viewpoint to events throughout the RISC OS world, as well as the latest Omega news.

Recent items have included not only hilarious self-parodies of MicroDigital's own presentations, but also much deeper articles from third parties about matters such as the USB API which MicroDigital plan to use for the Omega. This particular article commented out those paragraphs of the original which strongly criticised Simtec.

Such moderation of potentially inflammatory topics seems fairly reasonable, especially when the MicroDigital USB implementation is set to follow Simtec's overall approach (perhaps thereby avoiding many of the problems of driver availability). The partial concealment of the controversial paragraphs was quickly exposed on the Acorn newsgroups, but, as always, there is no such thing as bad publicity.

Software for the Omega

One of the major obstacles in encouraging new users into the RISC OS desktop market is the perception that gaps exist in the range of software available. MicroDigital are keen to address this. A wide range of software is planned for inclusion with the machine, similar to how the RiscStation and Mico came bundled with numerous productivity and other software.

Some of this software is likely to come from the extensive APDL/ProAction catalogue, and MicroDigital have also been talking to R-Comp about the provision of internet software. The most significant development here is that MicroDigital have recognised existing concerns about R-Comp's WebsterXL browser, and plan on investing money to deal with outstanding issues.

The Omega itself will hugely increase the speed of operation of WebsterXL, but there should also be improvements in the browser functionality, as well as what MicroDigital describe as an "internet suite", which is likely to be based around R-Comp's DialUp, an enhanced version of WebsterXL and other software.

MicroDigital aren't happy to stop there, but specifically named spreadsheet and accounting software as areas where RISC OS needed improved software. There are apparently plans for MicroDigital's own software house, and they also have close relations with a number of RISC OS software producers.

No limits

David rejected suggestions that one large batch of Omegas might meet all of the expected demand, as some have suggested might happen with RiscStation's laptop project. Instead, he has total faith not only in MicroDigital's ability to grow the RISC OS market, but also in the on-going enthusiasm of existing RISC OS users to maintain sales of the Omega over an extended period of time.

MicroDigital clearly still have big plans and a great deal of enthusiasm of their own, so the next few months, and years, should prove very interesting indeed.

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Getting caught in the Net

ADSL is the acronym for Asymmetric Digital Subscriber Line. It is a technology that turns the twisted copper pair of wires between a local telephone exchange and your telephone socket into a high-speed digital line. Several experiments with ADSL to real users began in 1996. In 1998, wide-scale installations began in several parts of the US. Now it is becoming the dominant access method for the Internet, if you can get it.

It is called "asymmetric" because it downloads data faster than uploading. On the Internet this is usually the way it works, you request a Web page which is a simple action, then download megabytes of data.

Because ADSL operates over a normal telephone line there is no need to dig up the roads to install it. The ADSL signal is transmitted by two ADSL modems, one at your end and one in the local telephone exchange. These modems utilise the physical transmission capabilities of the copper wire to achieve the higher data rates. A 'splitter' at each end separates the telephone signal from the ADSL signal which means that telephone calls can be made at the same time that data is being sent or received. You can surf the Web and make telephone calls at the same time.

So what kinds of speeds can you expect to get? This varies depending on what service you actually get but these are typical:

Download	Upload
Up to 512 Kbps	Up to 256 Kbps
Up to 1 Mbps	Up to 256 Kbps
Up to 2 Mbps	Up to 256 Kbps

ADSL is generally offered at downstream data rates from 512 Kbps to about 2Mbps, some ISPs will offer higher rates. So how does this compare with ISDN? Well apart from being 16 times faster, it depends on what you are trying to achieve. The main benefits of ADSL are:

- Higher bandwidth
- Always on capability
- Flat rate charging

However, ADSL is limited by the amount of enabled exchanges. If you are unable to get ADSL in your area then ISDN would be a good alternative to a 56Kbps dial-up connection.

The high downstream bandwidth of ADSL means that your telephone line can bring video, audio and 3D images to your computer or hooked-in TV set. In addition, a small portion of the downstream bandwidth can be devoted to voice rather data, and you can hold phone conversations without requiring a separate line. Unlike a similar cable services, using ADSL, you won't be competing for bandwidth with neighbours in your area. In many cases, your existing telephone lines will work with ADSL. In some areas, they may need upgrading.

Assuming that you have a BT phone your keep yur current phone number. If you use another telephone service provider will you have to have a BT line installed, however this will still be subject to survey. Currently about 60% of the UK and 70% of all Internet users are covered by ADSL exchanges.

You can go to the BT Web site and find their ADSL area search, just enter the phone number or post code and it will tell you if you can have ADSL or not. If you can, then just choose the company that you want to install it and away you go.

Vill of the VISP

You too can be an ISP, without all the necessary infrastructure, in fact how many companies offering ISP services are really VISPs? That's Virtual ISP.

It is entirely possible for you to become a free Internet Service Provider and provide subscription-free 0845 Internet access, 0800 Internet access and email addresses under your own domain name.

So why would you want to? Well apart from the potential to make some money there are other reasons. For example as a service company you can offer ISP facilities to your clients and tie them even more closely to your other services, while giving them a continuous reminder of your name and brand.

You don't have to be mercenary about it, you might have a small (or large) group of people that you can offer Internet access to, using your own phone number. It all depends on what you are trying to achieve.

You can out-source the provision of e-mail and other Internet services for your clients and staff under your own domain name. Apart from the benefits listed above it can give you:

- Increase customer loyalty
- Boost your credibility
- Generate call-share revenue
- Provide added value services
- Heighten and reinforce your brand

How It Works

An ISP, in this case, supplies the complete technical infrastructure necessary for you to be live and signing up users within a short period of time after receipt of your application. The key elements of the package are usually:

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Your customisable web portal provides dial-up customers with up-to-the-minute news headlines, notices, service updates and integrated access to search services including Altavista, Excite, Google, Lycos, Yahoo! and The Open Directory.

- Client Account Sign-Up, signup.your-choice-of-domain

Your clients create their accounts using a sign-up service reflecting the design of your web portal. Your clients, by signing up to your VISP service, agree to conform to and abide by the Terms & Conditions shown in this link.

- Client Account Support, your-choice-of-domain/support

Here your clients will find online support. Additionally, VISPs can offer telephone support on non-branded premium number, not every ISP gives this Abel Internet does. VISPs can, if they wish, provide their own technical help line.

- VISP Manager

To customise your VISP links Using VISP manager you can to upload your logo, configure font and colour settings as well as submitting notices and service updates.

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It contains well thought out, constructive advice on 'doing' cursive writing, plus beautiful illustrations and animations about where the alphabet came from, forming and joining letters, how to sit correctly, avoiding ink blots, how ink and paper are made and making quill pens.

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Complements Communications topic work – great for school libraries
Recommended by the Society for Italic Handwriting

All About Planes

From Icarus to the Space Shuttle, from 'how planes fly' to simple 'science experiments', *All About Planes* is designed to get children reading. Each page, or screen, of information has an illustration and animations with captions that can be read out loud by clicking on just one button.

The software, designed for Key Stages 2 & 3, is structured like a book so that students won't easily get lost, and it contains topics such as Early Planes, Air Flow, Passenger Planes, Birds & Gliders, Military Planes, Cockpits, Fun Planes and Helicopters.

Export text and pictures to include in projects and homework
Find out how to make paper aeroplanes and print out pictures to colour in
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Christopher Jarman created the *Christopher Jarman Handwriting Scheme*, published by Nelson Thornes, Cheltenham, for teaching at Key Stages 1-2 and P1-7.

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I've got them on my list

Sometime in the last two years, I forget exactly which issue, I wrote an article covering a little idea I had had that would handle two problems (one fundamental, one aesthetic) with the RISC OS user interface.

On a personal level I have a lot of experience in programming, both on RISC OS and also on the Apple Mac. There is a great deal about Mac OS at the lower levels that is good. For example, Mac OS also has a concept similar to soft-loadable modules to supply global services to any application that needs it. The implementation is not as versatile as RISC OS, but it is there. Mac OS also has a lot of built-in services that RISC OS doesn't, but should, have.

Getting back to a fundamental problem with RISC OS, this is that there are too few filetypes, I'm not suggesting we are in danger of running out in the near future. But there aren't enough simply because the number is fixed, we could run out if there were a sudden explosion in the success of RISC OS.

A generic way around this that doesn't cause problems with earlier operating systems would be nice.

The other problem, the aesthetic one, is that other operating systems allow previews of files. This is handled in different ways depending on the OS. The solution to this problem and the earlier one (and other potential problems) can be handled by creating a new generic filetype. A file of this filetype is actually uses the drawfile format but with an extended set of objects.

One of those objects can be a new filetype which we can allocate as any number of bytes, we can also encode a creator code into it as well. We could have a "double-click" action code which would be a command line instruction to be carried out when the file is double-clicked. This would mean that one sprite file could be loaded into Paint when double-clicked whereas another might load into Photodesk.

Or it could be specially programmed to make a sprite file into the backdrop by just double-clicking it. Or invoke a whole set of actions, or even delete the entirety of the contents of the disc it is sitting on. Well, not all ideas are bright ones.

Another part of the drawfile can be a preview, this could be a drawfile itself (which would allow it to be viewed at a large size) or it could be a bit-map image. This could be used in thumbnail form and replace the generic icon in the Filer window. Another object could be a help message to be used if you point at the file in the Filer window with help switched on.

One object would be the actual data needed by the application that is creating or editing the file. Even more information can be added: Creation date, and every single date of update; Compilers could store compiled code in a separate object to the source code, but within the same file; Encryption data; PGP signatures on the stored data. And so on.

A certain amount of backward compatibility can be created by the addition of appropriate modules to earlier versions of the operating system.

So that's a shortened version of the earlier idea. Now let's look at what else Mac OS can suggest that we can implement in a far superior way. I will say, though, that there are only two reasons why it is "far superior": First, RISC OS naturally provides a better building blocks (well, some anyway), and second, the Mac OS versions have evolved over time so have had awkward kludges added to them in order to extend the functionality.

We can stand here at an advanced point and we know what functionality is needed and so go straight to the finished product without the evolution. Enough talking around the subject, let's take a look at it: Lists.

Quite simply: RISC OS needs a list manager module.

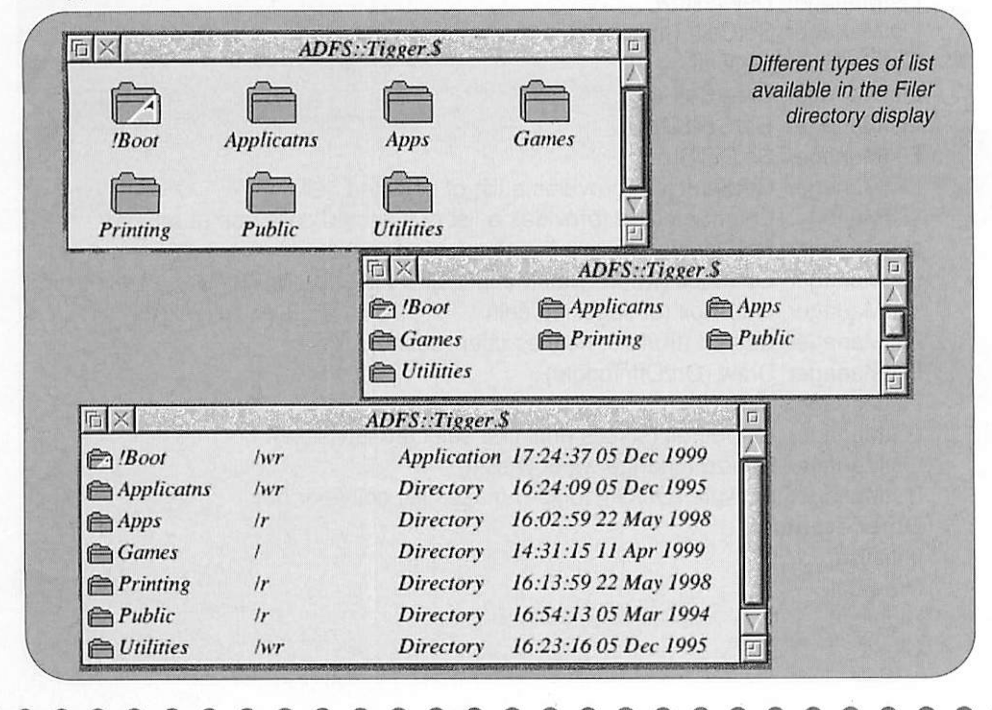
Let us examine first what a list is and where it is used. A menu is a list of items which may have sub-menus or windows hanging off them. Our list manager wouldn't replace menus but it provides an idea of what we are looking at.

You may have an application which provides you with a list of items, perhaps in a scrollable window, and you have to choose one of those items. A Filer window provides three types of list: Large icons, Small icons and Full info. All three types can be either one or two dimensional. A spreadsheet is a list the way we are looking at it.

Currently there is no standard module that you can use to handle lists. If you want to create a list if your own you have to program it yourself, this is re-inventing the wheel which is always bad programming practice because it leads to inconsistencies between applications and how they each handle lists.

Most programmers try to make them behave the same but even a Filer directory is a list, a sophisticated one with lots of options but just a list nonetheless.

If it's been written once for the operating system, why can't we use the same code ourselves? Naturally at the time it was first written it did not occur to anyone that it would be required by anyone else, and it was



Different types of list available in the Filer directory display

no doubt being written on a tight schedule since it was a fundamental part of the user interface and had to work before the system could be released.

Add to that the fact that in the early days of ARM2 there was not a lot of processing power and lots of jumping around between modules could use up a lot of time. Filer directories do use a lot of processing power (relatively) because the icons are not actually part of the window definition and so are not handled by the Wimp itself. They are placed by the Filer and mouse clicks have to be analysed by the Filer to see if they actually do intercept an icon.

Nowadays we have more power to play with and the use of a list manager, which the Filer itself would be able to use as well, would be a distinct advantage. It would seriously reduce code size and have a dramatic effect on development time. I know from experience that a programmer can spend an inordinate amount of time on the details of a hand-coded display when it has to scroll and accept individual clicks on separate items.

Getting technical

So let us have a look at what makes a list and how we would go about creating an application programmers' interface (API) for such a thing.

First we have to imagine that a list, as displayed, is composed of cells, each cell is the same size and can appear either as a one dimensional or a two dimensional grid. Our first improvement over Mac OS is a requirement since we have to let the Filer use our List Manager, this is variable topology.

The Filer let's us adjust the size of the window containing the list and automatically moves the icons around so that they always fit into the width and there is only a vertical scrollbar if there happen to be more rows of icons than will fit into the vertical height of the window.

So we have a choice when we attach a list to a window we can specify whether it is to be a fixed grid with fixed rows and columns, or have variable topology. In the former case we can refer to the cells by their column and row numbers. In the latter we only refer to them by their position in the list from zero upwards.

So we have list which is composed of list elements and in the list display

1,1	2,1	3,1	4,1	5,1
1,2	2,2	3,2	4,2	5,2
1,3	2,3	3,3	4,3	5,3
1,4	2,4	3,4	4,4	5,4
1,5	2,5	3,5	4,5	5,5

we have cells. Each cell displays just one list element. We can assume that will be in order, but we have to be able to adjust the order. So there must be a means of attaching/detaching cells to/from list elements easily.

The size of a cell can be calculated automatically or it can be specified by the application but all cells are the same size regardless.

Now let's look at the actual displaying of list elements, how do we do that? This is one place where RISC OS forges ahead of Mac OS because our favourite operating system already has a format that we can automatically use to display data, and that is the icon format used in windows.

Over the years the format of an icon has been described in a dozen places so I'm not going to go into exact details here. Suffice to say that it will consists of either a sprite, or text, or both. The sprite can be shown big or small, and can be held in either of the system sprite pools or in a separate area defined by the application. Likewise the text can be 11 characters given in the icon definition itself or held separately.

Icons can be selected or unselected, or unselectable. The positioning of the text in relation to the sprite itself can be adjusted through a whole range of positions. this kind of thing would be enough for most applications.

Each list also has a set of its own flags which help to define how the list will operate. And one of those flags is used to specify a type of non-standard list element, it says that the contents of each list element is not an icon and that redrawing of the icon must be done by the application not the List Manager.

API

Here is a list of the type of module SWI calls you would need in order to get this List Manager working:

ListManager_New
ListManager_Dispose
ListManager_AddColumn
ListManager_AddRow
ListManager_DeleteColumn
ListManager_DeleteRow
ListManager_SetCell (attaches list element to cell)
ListManager_GetCell
ListManager_ClearCell
ListManager_GetCellSize
ListManager_SetCellSize
ListManager_GetSelected (provides a list of selected cells)
ListManager_EnumSelected (provides a list of selected cells one at a time)
ListManager_SetSelected (give a list of selected cells)
ListManager_LastClick (where was the last click for given list?)
ListManager_GetBBox (of specified cell)
ListManager_Search (from/to, notifies user routine)
ListManager_Draw (On/Off/Toggle)
ListManager_ScrollTo
ListManager_AutoScroll (scrolls until first selected is visible)
ListManager_Resize (change window size)
ListManager_Activate (On/Off/Toggle) makes list active or not

Other events

Initialise
DrawCell
Highlight
Close

In this instance the list element would probably not be an icon. Instead it would be a piece of data to be used by the application to display. It might be a pointer into a database, or a reference to a file on the disc, obviously it depends on the application itself. If someone built a spreadsheet around our list manager (it wouldn't be hugely versatile) then the data could be the formula for that cell.

So let's look at the other types of flags we would need:

• variable topology, we have already covered this

• Do not highlight empty cells

This one would be used to stop cells without contents from being selected, whether it would be used or not is dependent on the application. It might look strange in some cases if empty cells were not highlighted.

• Single selection only

If this is set you can only select one cell at a time, otherwise you can select blocks

• Non-contiguous selection permitted

Usually you would only select single block but this option would let the user select cells in different parts of the list.

• Notify when cell selection changes

This is a call that the module makes to the application when the cells that have been selected are changed, this might require some action on the part of the application.

• Custom redraw

These list elements do not contain icon data, call the application with a pointer to the data when redraw is needed.

• Borders

Perhaps we can specify what sort of borders to put around each cell.

• Select only on icon foreground

Assuming the list elements contain an icon, only allow a click on the actual icon itself to work, clicking in a general cell area won't work.

• Notify on menu

Tell the application when the Menu button is clicked along with the cell that it was clicked over.

Naturally we assume that standard mouse clicking works in the expected way: Clicking Select will select the cell it was clicked on, if it was unselected then all other selected cells are de-selected. Dragging Select de-selects all other cells and then selects only those cells dragged over.

Clicking Adjust inverts the selection status of the cell clicked on without affecting the selection status of any other cells. Dragging Adjust inverts the selection status of the cells dragged over without affecting the selection status of any other cells.

And that is it, as an idea. Having this as a standard module, or a toolbox module would really speed up the development of programs, allowing the programmer to concentrate on the detailed work rather than the user interface.

But it is only an idea. Perhaps it will happen, perhaps it won't but it would be nice if it did. Do you have a bright idea for RISC OS, why not write about it and send it in, or just send it in and I'll write about it for you.

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Network cards: Castle Technology

Last month we looked at the Simtec card, it was reviewed first bcase it arrived first. The Castle card was the finished article rather than a release candidate prototype. The card itself was similarly a chip light design, with just the front half of the card containing some generously spaced components connecting to the RJ45 socket way at the back.

One thing that definitely appeared to be missing was the lights usually found on or near the RJ45 socket; on 100bT equipment you usually get a couple of lights, to show speed and connection status, and to have a piece of networking apparatus without any was surprising. As it turns out they are on the inside, whether this is better, worse or no different to having them outside only time and network engineers will tell.

Like the Simtec card the software for the Castle podule comes not on disc but on the card itself. I think this is a great idea; no broken floppies, no worries if you still don't have a CD drive, the card is ready to rock and if you need to reinstall the software at a later date you know exactly where to find it without hunting through that drawer of identical discs.

On both systems you can stop the software showing up in the Apps folder for neatness too. The problem that I ran into is that the Castle auto-detect software caused an error when the card wasn't fitted that required user input to return to normal desktop usage. This is a bit of a pain and hopefully will be sorted out

There was also another slight problem when using my old Risc PC 600 (emphasising the word "old"). I fitted the Castle card in that initially so I didn't have to mess around with the working Simtec/RPC700 setup, but as soon as I switched it on I got a cryptic error which stopped the machine booting up. The Simtec card did pretty much the same thing, but a different error message.

I figured out that the MBufManager module had been unplugged by the ArgoNet Voyager suite, as it softloaded a newer version of the !Internet stack, fine for Desktop apps, and it never troubled the old Ant 10bT card, but the newer cards wouldn't start up. With the Simtec NIC you have the elegant solution of using the onboard Flash memory to store any modules you require, or pretty much the whole Internet stack if you want.

Due to the vagaries of the RISC OS stack the Castle card required a bit of a kludge to get the Boot sequence running properly. Under RISC OS 4 neither card had any problems, because the latest stack is included in the OS. Which basically tells you that if you want these things to work properly stop using old systems. Times have changed.

Conclusions

In my opinion Simtec and friends have produced a solid product with decent software at a price that's cheaper than the increasingly harder to find 10bT NICs, plus the added bonus of onboard storage.

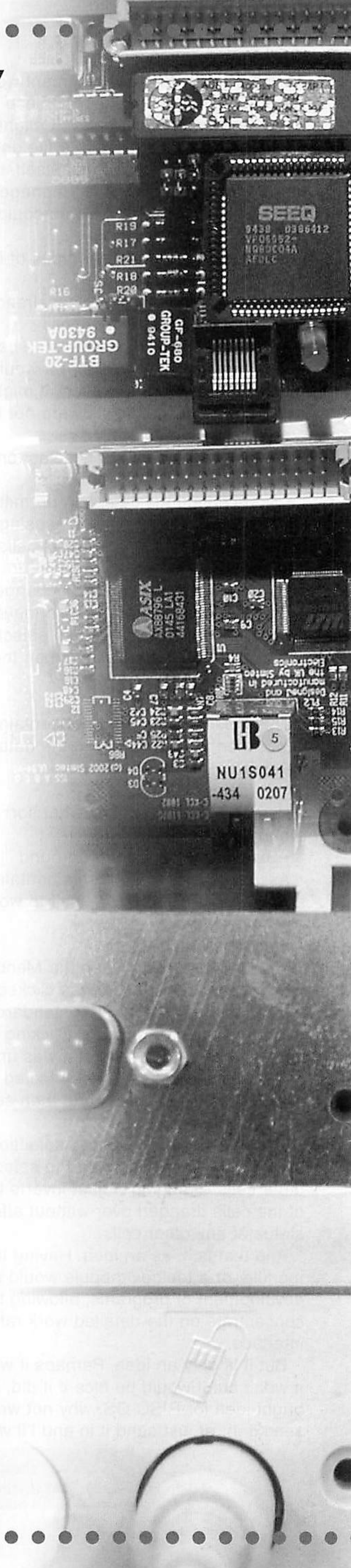
I would say that Castle have some work to do on the software. It still comes down in the end as to whether you want to use the NIC interface or one of your podule slots but to me the NIC interface is the obvious place to put a network card. I'm not really sure why Castle created a podule unless it is a spin-off from something else they have been working on.

Neither card will astound you with its speed, so if you already have a network card in your RiscPC or A7000 there's not a huge incentive to rush out and upgrade, I've noticed slight changes in my working practices, and speedwise it's been worthwhile for me, but your mileage may vary depending on what you use your machine for.

In an office-type environment the stability and speed might make it a worthwhile investment, especially if it's not your own money you're spending. The major advantage comes when you're buying your first network card, as far as I can tell the Simtec NIC is the cheapest network card available for the Acorn range, and once Castle sort out their problems it's still no more expensive than the existing slower kit.

In the final analysis it's the Simtec card that has taken up permanent residence in the machine I make my living from, so read into that what you will.

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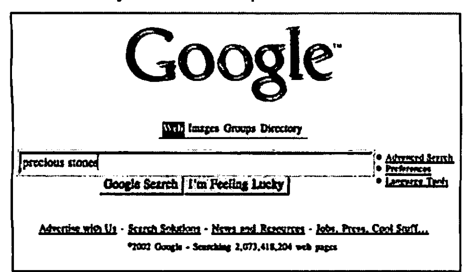



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Making a name for yourself

Advertising on the Internet can be a very expensive business. If you have a company or want to offer a service for money over the Internet you have to find a way of making yourself known.

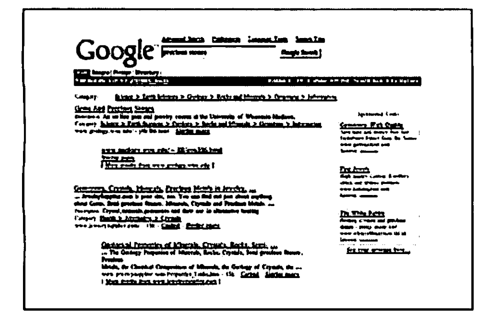
For many the initial impression of the Web



is similar to the old fable of London, the streets are paved with gold. In this case perhaps the URLs are paved with gold.

However it's as much a fable for the Web as it was for London, unless your name happens to be Whittington and you're travelling with a virtual black cat. Don't forget that it took Amazon.com years to make a profit, are was the bursting of the Internet bubble and other horror stories to consider.

Success can happen but it relies on knowing how to promote yourself. This is the first in an informal series on various ways of getting yourself known and will include such things as how to manipulate your site in order to get the search engines interested in

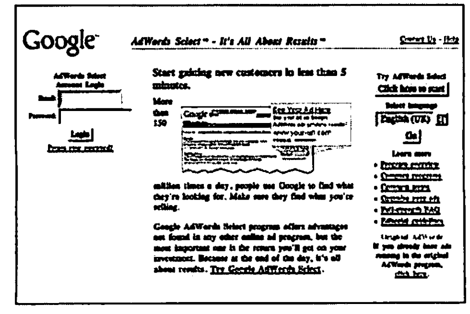


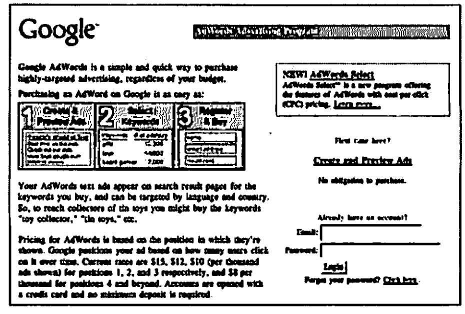
you; what associate schemes mean and how they are implemented and so on.

This time we are going to look at a specific form of advertising that does cost money but not as much as you might think and, if used intelligently, can be cost effective.

Google Adwords

The precise form of advertising in this case is on the Google search engine site. If you log-on and do a search for, say, "precious





stones" you will get the response as shown in Figure II. If you look on the right of the screen you can see the AdWords, up to eight of them on a screen.

These are purely text and you pay for each impression. An impression, in advertising terms, is an opportunity to be viewed, if someone is there and the advert is there at the same time, that's an impression.

This works in TV and radio terms (multiplying by the estimated number of viewers and listeners), poster advertising (estimated number of people that go by a poster in a given location), and Web terms when an advert pops up on a Web page that has been requested.

If you go to the http://adwords.google.com/ site (using Oregano and maybe WebsterXL, Fresco can't cope) you will be presented with information about the site and the opportunity to try out a text advert.

This leads very smoothly into the offer of actually paying for it. Which is good selling technique, of course. However I did run into some difficulty, because at some point in the sequence you are supposed to register and for the life of me I couldn't find a way of registering.

In the end I put in an e-mail address and password into the log-on fields and waited for it to tell me that this was wrong and did I want to create a new account? So I did. This also involves having your credit card details ready. Don't worry, apart from the fact that Google is a respectable company, you specify a budget before you start so you can make it as low as you want (down to $1). There's no risk of spending more than you intend.

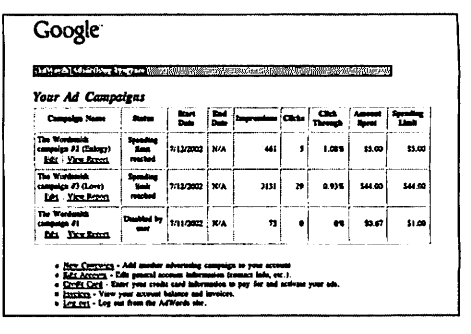
Once at this stage you can start a campaign, in fact several campaigns. Although it's not obvious a campaign is actually based around the keywords you want to connect with. I think at this stage we stop generalising and actually look at a real situation.

Case study

The site we looked at was www.theWordsmith.net, this is a writer who provides two general services, commissioned poetry and commissioned eulogies. The Web site was in place along with the system for the clients to pay. Everything was ready to roll but no one knew about the site.

An overall budget for Adwords of just $50 (about £35) was decided on in advance. The first advertising campaign was based around the commissioned poetry and the keywords to be searched for variations on "unique gift". In fact of the choices only "perfect present" and "perfect gift" got any response 800 times a day on average, at a predicted cost of $12 per day.

Three text adverts were set up pushing the Unique Gift concept but after a few hours it was quite clear that this was not a good choice. The ads had only drawn 73



impressions and zero click-throughs. The process was far too slow. The campaign was suspended.

A new campaign was launched promoting the eulogy writing aspect of the site (research showed that there were two other sites doing this who were also promoting via Adwords). This generated impressions at a far higher rate and began to produce click-throughs. This is where the instantaneous response of Adwords becomes useful.

By viewing the itemised reports it is possible to see which adverts are actually generating the higher rates of click-throughs. From this information you can remove the

Google

Edit Your Ad Campaign

General campaign information:

Spending limit: $44.00

Edit general campaign information.

Campaign is currently active

Stop running the ads in this campaign.

adverts that aren't and so maximise your pennies spent on advertising.

Look at it this way: If you have three adverts, two of them are producing a click-through of 2% and one is doing only 0.5%, but the cost of each is the same, you kill the one that is doing the least so the good ones will appear more often.

Anyone who thinks that the wording of an advert is not important should spend some



time and money experimenting on Google's Adwords, you will very soon be persuaded of the truth.

Having discovered that the more focussed attack of the Eulogy campaign generated far better results over the Unique Gift campaign, a third campaign "Love Poems" was put together. This had the highest hit rate on those particular keywords of all, and not many other companies were using that phrase to display their ad.

Seemed like a good combination. Once again three ads were put together with various wordings and the campaign launched. The click-through was just under 1% which is quite good and the rate of impressions was very high indeed. Unfortunately it meant the budget was used

Create an Ad

Use this form to create new ads for this campaign. If you create more than one ad in a campaign, their display will be rotated evenly through the keywords you choose.

Headline:
Your company's name - 25 character limit.

Text line 1:
Message or Call to Action - 35 character limit.

Text line 2:

Homepage URL: http://
Your homepage address - 35 character limit.

URL to link to: http://
Your ad will link users to this address. This can match your homepage URL above, or can be another page on your site if you choose. This page should not contain pop-ups.

up fast.

Results? One sale via the love poems campaign which is a 5% response from the click-throughs. Not bad at all. However if you look at the overall advertising costs $44 (say £30) to achieve one sale of £50, well it is a profit. If all the profit were ploughed back into advertising you would only get two-thirds of the advertising and less likely to get another response. Critical mass has not been reached.

You need to have serious money to invest in something like this even though it is relatively cheap. Or a product with a much higher profit margin and better click-through/sale rate.

Hints and tips

Google provide a lot of help in choosing the right words to use, and as you can see this is important. If you choose the wrong keywords you either get few impressions and no response (although few impressions with a very high response would be good), or you get vast numbers of impressions with no response.

It is recommended that you don't use generalised keywords like "free" or "software", specifics are better. You can do short campaigns with a limited budget to see what kind of impression and click-through rate you get.

Plus you must make sure your wording in the advert is good. one rule of thumb from the limited experience here is that using the search keywords in the main header is the right thing to do. If the person is searching for "love poems" then your ad should say "love poems", seems obvious when you think about it.

Being at the top of the Adword tree is something you might strive to achieve, but it is more expensive there. Someone running another business has pointed out that he maintains a 10th position slot (not Google), which is on the second page of search results. He finds this to be very cost-effective, he has a much lower impression rate but the click-throughs are high and he gets sufficient profit to justify continued advertising.

The reason for this is simple: If a person has come through the first full page then they are really looking for a bargain so they will click-through to his site. Having got them on his Web site his prices are very good and so he gets a high percentage of sales.

Web search

Getting yourself on to as many search engines as possible is a another way of promoting yourself, but then you have the problem of getting to the top of the search list.

Different search engines use different criteria for ranking sites, some sites (Yahoo for example) insist that commercial sites pay for the privilege of being listed (about £150), most of the big other ones don't. Incidentally, not only does Yahoo charge a high price they also won't guarantee inclusion whether you've paid or not.

Sites like Altavista (always my favourite), Lycos, Hotbot, even AOL, don't charge for their normal service but will charge if you want them to hurry up. It can take weeks to get listed.

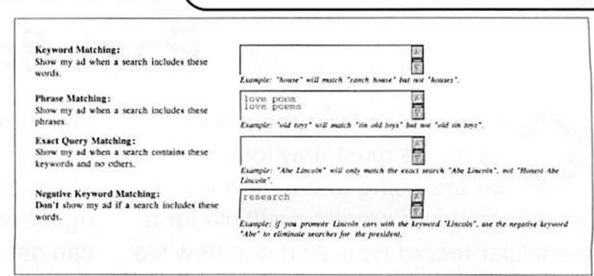
In terms of criteria, some want Meta Tag keywords to match the words in the text;

Estimates For Your Selected Keywords

This is an estimate of how many times your keywords will cause your ad to be shown:

Type of Match	Keyword(s)	Estimated # of Ads Per Day *	Per Week *	Per Month *
Phrase Matches	love poems	13,600 impressions *Estimated cost per day: US$204.00*	95,900 impressions *Estimated cost per week: US$1,438.50*	423,000 impressions *Estimated cost per month: US$6,345.00*
Phrase Matches	love poem	4,000 impressions *Estimated cost per day: US$60.00*	28,000 impressions *Estimated cost per week: US$420.00*	123,700 impressions *Estimated cost per month: US$1,855.50*
Total		17,600 impressions *Estimated cost per day: US$264.00*	123,900 impressions *Estimated cost per week: US$1,858.50*	546,700 impressions *Estimated cost per month: US$8,200.50*

* Important: Estimates of how many ads will be shown and its cost are based on past history, do not take language or country targeting preferences into account, do not distinguish between 'Keyword/ Phrase' and 'Exact Query' preferences, and are **NOT GUARANTEED**. Prices assume the maximum possible rate ($15/ thousand ads shown). Your credit card may be charged up to the spending limit you set per campaign.



some will rank sites better if they have a lot of other sites linking to them; most will mark you down if you try repeating words many times in an effort to emphasise something. But we will look at these things in more detail in a later article.

Free advertising

One of the best ways to promote your site is through PR rather than through advertising. The use of press releases is always seriously underrated, in fact it is very important.

News editors, in all areas of the media, are essentially lazy. If someone sends them a press release that can be copied almost directly into their news pages (particularly if it is e-mail and not hard copy), preferably with a picture or two, then they will be far more likely to use it than any other type.

Of course a press release about yet another consumables site is not very exciting. One about an online poet is better. But generating excitement is down to you and your creativity in putting together a press release.

And, since I'm letting out trade secrets, the other point is that press releases should be issued regularly in fact as often as is sanely possible. It is a running joke in one company that issued three or four press releases per day that it would be "Managing Director goes to loo, send out a press release!".

It was a joke, but it was almost true. The effect was to keep that company always at the forefront of the news editors' minds. And they almost always got at least one mention in every issue of the publications they sent out to.

And if you can include some element of controversy, those news editors will like it even more.

Summing up

Building a new business on the Web takes time and money but it can be done successfully. The rules of advertising and PR apply just as much to the Internet as they do to any other medium. They are not different.

You will not make your fortune overnight on the Web but it is possible to be a success, if you work at it.

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Part 8: Tracking media

Continuing on from the previous issue, we must now look at how we are going to create a list of all the records currently available for a particular record type. And see how we can create, edit and delete them.

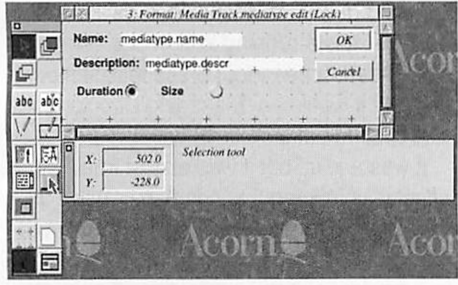
We are currently working on the "mediatype" record and the first problem is that I have created the fields for this record incorrectly. As a matter of course I always have a "name" field for every record type. This is a potentially non-unique field which gives a description of the record.

3: Field list: Med

Label	Offset	Data type
system	0	default
name	4	name
descr	34	descr
duration	64	boolean
size	65	boolean
id	66	id

(*Figure I*)

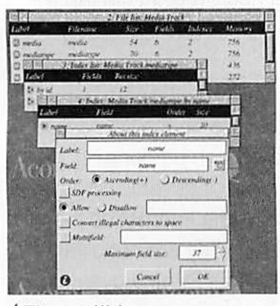
You can see in Figure I that I have re-ordered the fields a little and added the name field wich is simply a 30 character text field. As a result of this we must also alter the "mediatype edit" format so that it contains the same set of fields. Using this we can type in a name for the record and also a



(*Figure IIa)*

description (Figure IIa).

In addition to this we have to change the indexes so that we can have the records being accessed in order of their name. This is shown in Figure IIb.

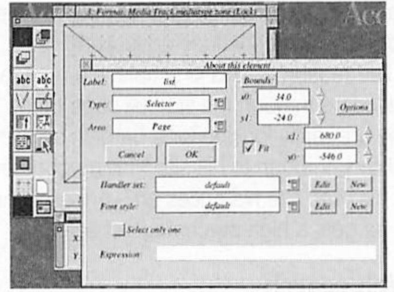


(*Figure IIb)*

Moving swiftly on we now create a completely new type of feature in the "mediatype zone" format and this is called a "selector".

Very simply, a selector is an S-Base format element that can have zero or more text lines inserted into it. If the number of text items exceeds the size of the selector, the scroll bar on the right becomes active. In a selector you can set it up to be able to select just one item and have the number of the selected entry returned in a variable. Or you can allow multiple entries to be selected in which case accessing is rather more complex but still fairly easy.

The idea here is that we fill the selector with the names of all the records of the type we are looking at, so we can select them in order to edit, use or delete them. We can activate and de-activate the buttons in the zone window depending on whether any entries are currently selected. My usual method is to have "New" always active, "Edit" active if one (and only one) entry



(*Figure III)*

is selected and "Delete" active if one or more entries are selected.

The first step is to create the selector, Figure III shows what you get when you add it to the "mediatype zone" format. The tool you use is the sixth down on the left of the toolbar. Give it the name "list", we will always use this name for the list of zone records. Plus we allow multiple selection of entries as described above.

For now we do not have a handler set for the selector (though there will be one) but I recommend setting the font style to the one we've used for the fields (called "field").

Before we can fill the selector we have to create a list of all the records and for this we need to use a query.

Ask me no questions

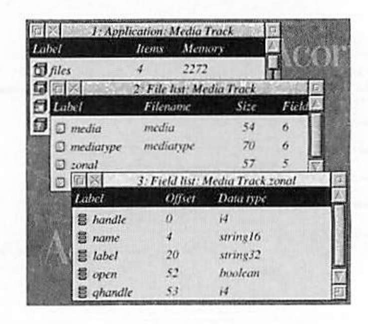
The query resource is a bit of curiosity but is absolutely critical to creating sensible applications. A query is a set of conditions that is applied to one type of record. When it is "run" it examines each record to see if it conforms to the rules, and if it does conform that record's number is added to a list. If it doesn't conform that record is ignored.

Basically a query resource must be built, then within the application, the query is created, then run, then used and finally disposed of.

That's the simplicity of it, but for our purposes there are some complexities, would you expect anything else?

Firstly, the query for a particular zone must exist throughout the lifetime of the run of the application. This presents something of a problem because every query has a handle, you must refer to the query handle whenever accessing the query, just as you do for card handles.

We already have a solution for this. Every zone already has a structure containing various global features. This structure is "ctrl_zones[ ]" which is based on the "zonal" file structure,



(*Figure IVa)*

created and used in the "control" procedure. We can add another field to



```
def proc control_init
  local zn,zw

  ctrl_curzone = CTRL_ZONE_NONE
  ctrl_showing = FALSE

  dim z zonal ctrl_zones[CTRL_MAXZONES]
  dim z zwin  ctrl_zwins[CTRL_MAXZONES][CTRL_MAXZWINS]

  for zn=0 to CTRL_MAXZONES-1
    ctrl_zones[zn].handle  = NO_HANDLE
    ctrl_zones[zn].name    = "zone "+@str(zn)
    ctrl_zones[zn].label   = "Dummy "+@str(zn)
    ctrl_zones[zn].open    = FALSE
    ctrl_zones[zn].qhandle = NO_HANDLE
    for zw=0 to CTRL_MAXZWINS-1
      ctrl_zwins[zn][zw].handle = NO_HANDLE
      ctrl_zwins[zn][zw].open   = FALSE
      next
    next

  return TRUE
enddef
```

(*Figure IVb)*

this called "qhandle" to contain the global query handle (Figure IVa).

Then we modify the "control" initialisation code to include the new field (Figure IVb). When a zone registers itself we create a new (standard) query using the zone's name and the word "list", this must exist otherwise an error will result. The handle of the query is put into the new field and then we call a new standard routine called "zoneprep(zh,qh)".

The purpose of this new routine is to call back the zone code at the registration phase and allow it to do any special initialisation needed for the zone window (Figure IVc).



```
def proc control_register_zone(zs,zt)
  local zh=0,qh=0
  ctrl_curzone+=1
  card new zh,@tolower(zs+" zone")
  card set header zh,@trim proc toupperfirst(zt)

  ctrl_zones[ctrl_curzone].handle  = zh
  ctrl_zones[ctrl_curzone].name    = @trim @tolower(zs)
  ctrl_zones[ctrl_curzone].label   = @trim proc toupperfirst(zt)
  ctrl_zones[ctrl_curzone].open    = FALSE

  query new qh,(@trim(ctrl_zones[ctrl_curzone].name)+" list")
  ctrl_zones[ctrl_curzone].qhandle = qh

  @exec("proc "+@trim ctrl_zones[ctrl_curzone].name+"_zoneprep(zh,qh)")

  return ctrl_curzone
enddef
```

(*Figure IVc*)

What this is specifically doing is giving the zone the opportunity to run the query and fill the zone list with the names of its records so that it is ready when the zone window is finally displayed. Notice that it is given the handle of the window and the handle of the query as parameters.



```
def proc control_getzone_handle(zn)
  return ctrl_zones[zn].handle
enddef

def proc control_getzone_name(zn)
  return @trim ctrl_zones[zn].name
enddef

def proc control_getzone_label(zn)
  return @trim ctrl_zones[zn].label
enddef

def proc control_getzone_open(zn)
  return ctrl_zones[zn].open
enddef

def proc control_getzone_qhandle(zn)
  return ctrl_zones[zn].qhandle
enddef
```

(*Figure IVd*)

The zoneprep routine can do other things as well, for example it will select and de-select the Add, Edit and Delete buttons so they are ready as well. For other types of zones there may be other things to do as well.

Figure IVd shows a new set of simple "control" procedures. One of the principles of good programming in this type of "modular" application is to provide a standard interface in one module that other modules can use in the knowledge that the interface won't change, even if the underlying data structures do change.

These four routines allow another part of the application to find out the values of a specified zone's control variables. Let's say a particular module needs to know whether its window is currently open or closed, it already knows what its zone registration number is (let's say "test_zonenum") so to find out it does this:

```
if (proc
control_getzone_open
(test_zonenum)) then...
```

In a badly written module a programmer might do this instead:

```
if
(ctrl_zones[test_zonenum].op
en) then...
```

Unfortunately if the "control" program is re-written so that "ctrl_zones[ ]" has a different name, or maybe a different structure, then this module's code won't work. But we "guarantee" that whatever changes are made "proc control_getzone_open( )" will always return the information wanted.

So let's look at the zoneprep routine as needed in the "mediatype" code, this is shown in Figure IVe. There is quite a bit here. In "_zoneprep" we call two further routines: "_zonefill" clears the zone list then fills it in again, while "_zonebtns" sets up the buttons so the correct ones are in available. The procedure "_zoneprep" is only called once, at the start.

The next one, "_zonerefill", may be called at any time it finds out the handle of its zone window, and the query to be used, and then calls "_zonefill" and "_zonebtns".

Getting down to the nitty-gritty (although we haven't looked at how to actually create a query yet) in "_zonefill" we save the current contents of the "mediatype" buffer and then find the handle of the selector in the window.

All format elements have their own handles but some never need to be used. With a complex element like a selector, which has its own set of functions and commands, we do need to know its handle.

The next command, "selector delete", allows us to remove any range of entries in a selector. We want to remove them all so we start at 0 and the number to remove is found using the @entrycount function.

A query contains zero or more record numbers, the first thing to do is clear out any previous contents. Then we run it again to get a new list of record numbers. Now we use a ffor..next loop to access each record number in turn, load up the record, then insert the name of the record into the selector.

We use ffor..next just in case the query finds no records. Notice how the function @entrycount can be used for a query just as it can for a selector.

There is also a potentially confusing use of the function @bget. In BASIC the function BGET is used to Get a Byte from a file (or anything that can be opened like a file). It is also completely sequential, you can only read the bytes as they occur one after the other. Although you can use the PTR command to change the position to read from.

In S-Base there are many objects that can be treated like files, and a query is one of them. The function @bget can have two parameters the first is the handle of the object to be accessed (as in BASIC) but the second is the position from which the byte is to be read.

Now a query contains record numbers, and a record number is not byte-sized, it is integer-sized (four bytes). So there is a naughtiness here, @bget with a query deals in four-byte chunks, not byte-sized chunks as the name suggests. This is not important in use but it is a good thing to know.



```
def proc mediatype_zoneprep(zh,qh)
  proc mediatype_zonefill(zh,qh)
  proc mediatype_zonebtns(zh)
enddef

def proc mediatype_zonerefill
  local zh=proc control_getzone_handle(mediatype_zonenum)
  local qh=proc control_getzone_qhandle(mediatype_zonenum)
  proc mediatype_zonefill(zh,qh)
  proc mediatype_zonebtns(zh)
enddef

def proc mediatype_zonefill(zh,qh)
  local mt=mediatype
  local qx,lh=@elementhandle(zh,"list")
  selector delete lh,0,@entrycount(lh)

  query clear qh
  query run qh
  ffor qx=0 to @entrycount(qh)-1
    load mediatype,@bget(qh,qx)
    selector insert lh,@trim(mediatype.name)
    next
  card update zh,"list"

  mediatype=mt
enddef

def proc mediatype_zonebtns(zh)
  local lh=@elementhandle(zh,"list")
  local sh=@selectedhandle(lh)

  card clear protect zh,"new","edit","delete"
  case @bitsetcount(sh)
    when 0
      card set protect zh,"edit","delete"
    when 1
    otherwise
      card set protect zh,"edit"
    endcase
  card update zh,"new","edit","delete"
enddef
```

(*Figure IVe*)

Strictly speaking the use of the second parameter is not needed here but I use it just to be sure the right items are being accessed.

In the "selector insert" command I use the @trim function. This is needed because the mediatype.name field is 32 bytes long and padded with spaces to the right. @trim removes the right-hand spaces (@ltrim removes spaces at the start of a text string).

Continuing on we then update the element on screen so that any previous displayed contents are removed. we restore the contents if the mediatype buffer (in case they were important) and exit.

In "_zonebtns" we once again get the handle of the selector in the zone window. Then we do something new.

Strings of bits

There is a type of object in S-Base which you don't find in BASIC. This is the "bitstring", the name is what it is, it is a string of bits of any length, and each bit can either be set or unset. A bitstring is created with a "bit new" command, they have a handle and various functions to modify and access them.

As previously described we have set up our selector to allow multiple selections of entries, so how do we know which entries are selected? Every selector has two bitstrings attached to it, the "selected" bitstring and the "protected" bitstring.

Every entry in the selector has one bit in each string associated with it: For the first entry (entry 0), it is bit 0 in each string, for entry 1 it is bit 1 in each and so on. When an entry is selected, its bit in the selected string becomes set. When an entry is protected the bit in the protected string is set.

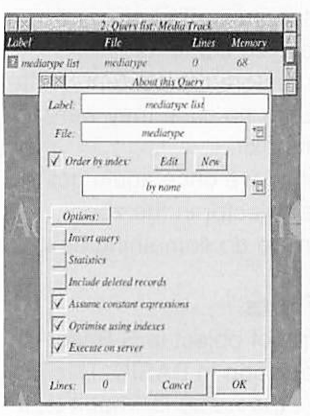
What we do to set the New, Edit and Delete buttons is find out how many entries are currently selected. First we get the handle of the selected bitstring, then count the number of bits that are set using the @bitsetcount function.

We remove protection from each button, and start a case..when..endcase statement for each situation. When no entries are selected we protect (grey out) the Edit and Delete buttons because there is nothing to edit or delete.

If just one entry is selected, we leave each button as it is. And if more than one entry is selected we protect the Edit button because we are not allowing multiple edits to occur simultaneously, though we are going to let the Delete function kill more than one at a time.

About that query

We have discussed how to start and handle queries within the code but how about actually preparing the query resource for use in the first place.



(*Figure V*)

Go to the query resource and start a new query by pressing Control+N. Type in the name "mediatype list" select the mediatype file from the menu, click Order by index and choose the "by name" index. Now click the three buttons as shown in Figure V.

Queries can be quite complex and have lots of filtering options to decide whether or not a record needs to be included when the query is run. However in this type of query we want all the records as quick as possible in alphabetical order of the name.

"Assume constant expressions" is used to tell S-Base that no changing variables are used in this query. Everything is fixed once the query is started; "Optimise using indexes" tells S-Base to use the data stored in the index when checking a record; and "Execute on server" only applies to the network version, it tells S-Base to perform the whole query on the server and not to run it on the client machine.

Updating the list

The final change to be made is in the record editing procedure, the "_make" routine. Where we create a new record we have to redraw the zone list so that the new entry is included, and if we edit a record we recreate the zone list in case the name has been changed.

We could restrict the edit change by saving the name at the beginning and then checking at the end to see if it

```
if (zr=-1)
    if (ok)
        create mediatype
        zr=@record(mediatype)
        proc mediatype_event("create(zr)")
        proc mediatype_zonerefill
      endif
  else
    if (ok)&&(crc<>proc reccrc("mediatype"))
        update mediatype,zr
        proc mediatype_event("edit(zr)")
        proc mediatype_zonerefill
      endif
  endif
```

(*Figure VI*)

has been altered. This would normally work for a new record as well since, at the beginning, there is a blank name.

But we don't do this because in some queries we might use different criteria for including a record in the list, or use a different order perhaps based on a date.

Another thought is that we could use the registration facility in order to notice that a record has been altered or edited. But this would mean that we would have to have "mediatype" registering with itself to update the zone list when a change was made. In some ways this is more elegant but it is unnecessary, the redrawing of the list is an internal matter within the zone.

Buttons and entries

You might think it is hard to add that final touch which changes the state of the zone buttons (New, Edit and Delete) when we click on the items in the zone list. In fact we only need to add two lines.

```
case @clickelementlabel
  when "new"
    @exec("proc "+zname+"_new(@handle,zrnew,ok)")

  when "edit"
    local qx=@bitfirstset(@selectedhandle(@elementhandle(@handle,"list")))
    local qh=proc control_getzone_qhandle(curzone)
    @exec("proc "+zname+"_edit(@handle,@bget(qh,qx),ok)")

  when "delete"
    @exec("proc "+zname+"_delete(@handle)")

  when "list"
    @exec("proc "+zname+"_zonebtns(@handle)")

  otherwise
    @exec("proc "+zname+"_zoneclick(@handle,@clickelementlabel)")

  endcase
```

(*Figure VII*)

In Figure VII you can see the contents of the "zone click" handler, we simply add these lines to allow the buttons to be changed:

```
when "list"
  @exec("proc "+zname+"
_zonebtns(@handle)")
```

But what we also want to be able to do is click on the edit button, so we have also modified that option in the case statement.

This has all been crammed together but from what we have said previously about queries and selector bitstrings you should be able to see what is going on so I shall leave that as an exercise for you, dear reader, to unravel. It does work.

Summing up

Those are all the changes we need to have an (almost) fully active zone. You can now create new entries in the mediatype zone and they will appear in the zone list. The only thing I haven't done is implement the delete option.

This is trickier for several reasons: On the face of it all we have to do is go through the list of selected entries, get their records and delete them. However we need to check with any other registered modules before deleting because a record might be in use or needed. You might want to think about how that would be done.

Next time we will implement the delete option and then create a new module, "media" itself. This will be extremely quick so we might do a couple more, and also take a look at how we will implement the backup facility.

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Whose desktop?

Before we turn the spotlight on yet another RISC OS computer let us look back on the one from last month, someone who uses the Internet extensively. In fact it is someone whose name is known to anyone who wants to know how to behave and where to post in the newsgroups world of RISC OS. None other than the keeper of the comp.sys.acorn newsgroup Welcome pack, Philip R. Banks.

So now we move our attention to a completely new arena, a completely new machine? Not quite because this machine is a mish-mash of old and modern and it sits in a room crammed full of Acorn-related clutter.

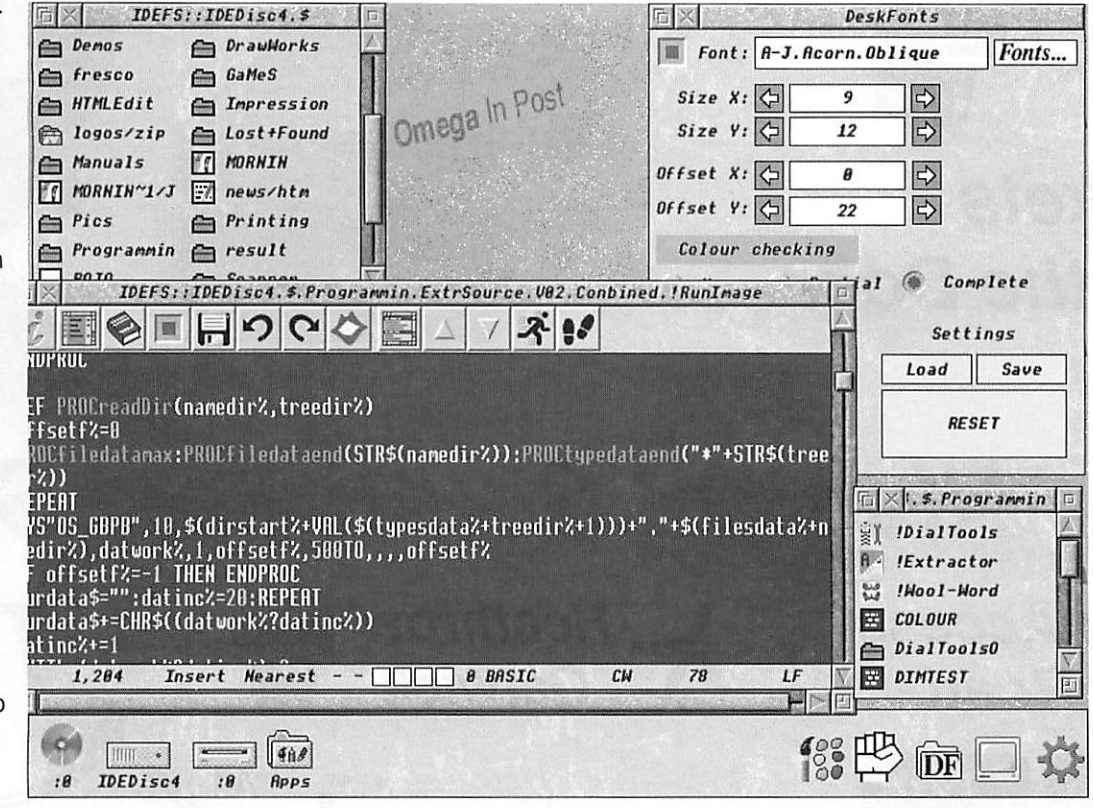
It is, in fact, an old A3010 but it is trying very hard to look and behave in a much newer fashion! When it comes to hardware this ancient (in computer terms) machine is connected via a Simtec IDE interface to a 50X CD-ROM drive unusually housed in an old BBC Micro disc drive case (who remembers when a floppy disc was 5.25in across?).

And for vision there is a Relisys LCD monitor that evens out the flicker associated with a computer of such a vintage and prevents headaches and eyestrain during the several hours it is used daily. Yes this machine is very definitely used, this is not some relic of the past but a fully functioning machine of today.

The user of this machine likes to embrace what's new and has set up several bits of software to achieve this look. There is NewerLook to provide the window and icon dressings, and the new Boot sequence has also been installed in a slightly hacked version.

This piece of software is absolutely essential if you want to use a lot of newer software like DialUp and RiScript on older machines. It also provides the Nested Window Manager support and the inevitably useful Alt+Break function. DeskCtrl has been used to give better palette and mode control, and makes the current display of 800x600 with 256 colours possible, but not quick.

DeskCtrl can also be used to generate Anti-aliased fonts but Deskfonts is used instead as it doesn't interfere with the New boot sequence patching. Deskfonts is limited to using fonts that aren't proportionately spaced.



It also has the very interesting Freeze application set up on it. This useful tool can save a complete copy of the memory and then load it back in again upon boot-up, reducing boot-up time from over two minutes down to about 20 seconds.

The other software on the machine includes most of the common applications EasiWriter, Impression and DrawWorks. There is also a copy of ImageMaster. This is an often overlooked package which it is very useful for viewing, manipulating, scaling and converting images. It is preferred by this user to programs like ChangeFSI for being quicker and easier to use. There are also directories full of demos and games many of them old BBC classics running under 65Host.

Although this machine doesn't have an Internet connection (this is left to the other machine downstairs) there is still a copy of both Fresco and WebsterXL. There is also a copy of the latest version of R-Comp's HTML Edit. Extensive use is made of its comprehensive set of tools for creating, editing and validating Web sites.

This particular person is a staunch inhabiter of the StrongEd camp and has the very latest version installed. It has been used to write a substantial array of programs on the hard disc, which are in various stages of being not quite finished. There is also a vast array of programming tools including Doctor Wimp, which can and has been used to create everything from a text file converter to a word processor for people with poor eye sight.

So what do we know about this person? He/she has evidently been using Acorn/ RISC OS kit for many years and likes to enjoy the past as well as embrace the future. I know they were an early orderer of an Omega.

They aren't the most tidy or organised of users and evidently are happy to work at a leisurely pace! Do you know who this desktop belongs to? Find out next month.

• For Sale,586 PC CARD for Risc PC, by Aleph1,includes PC Pro 3,also Windows 95 or 98, cost over £300 pounds, will accept £90 or near offer, Radcliffe,Manchester,please phone 0161 280 3375 or email, j.jackh@ntlworld.com

• 30 A5000s with hard drives, classnet network cards and keyboards. If anyone is interested, give me a ring on: 07909 588867.

• Acorn BBC B issue 7 and Cambridge Micro Z88 computers. Complete boxed Achimedes A3000 Learning Curve set. Loads of mags and software. E-mail dannyb@comms-unit.com

• Acorn User, Acorn Computing and Archimedes World mags from between 92-96. With disks but not CD's. Plenty of issues. Also; RO3 PRM's and other programming guides. Any of it is yours if you pay the postage. Tel: 01242 244227.

• RISC PC 700, S/A, RISC OS4, 89b HD, 48x CD, Midi, SCSI, 19" monitor, 36Mb RAM, Loads S/W, Inc: Easiwriter, Ovation Pro, Sibelius 7, Intersuite. richard.benjafield@ntlworld.com 07968985178 £400

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• For sale: A4000S (A4000 in Semerc case), 2Mb Ram, 400 Meg harddisk, Serial mouse, A5000 keyboard, Userport podule (HCCS Multipodule), RISC OS 3.11. Sensible offers. Can supply VGA monitor for extra 30 pounds. Tel: Bristol (0117) 9425082.

• Anyone want an original unused 486 PC Card (ACA 42) for Risc PC with DOS Software all boxed, manuals etc. Pay the postage or collect from SE London. Tel: 020 7703 5158 or des.dept@btinternet.com

• Wanted: 100MB Zip drive, external parallel port type, also Argo drivers. Will pay £50 and collect within 50 miles of Bracknell. Richard 07956 624412 richarda.green@invensys.com

• For sale: (a) Acorn 1 A7000+ with inkjet printer. (2) Acorn 2 A3020 with scsi MEU inc cd rom drive. Both have monitors are in working order and are ex school systems. Offers please, purchaser must collect Stalybridge, Cheshire, England. E-mail acorns@rastin.com or text 0777 934 1383 I will reply to the best offers

• RISC OS 3 PRM's and other Acorn programming books. Free to pick up or 20 GBP. tel: Cheltenham (01242) 244227 - Chris. Also Acorn user mags issues around ?80-130? free to pick up only.

• For sale: Acorn pocket book 2, with A-link, manuals, etc. £50. Tel 01424 846213

• A7000+, RISC OS 3.71, 1.2 Gig Disc. CD,Monitor, Keyboard etc, Risc PC 600, RISC OS 3.5, 17 Meg Disc, CD,Monitor, Keyboard etc School selling up and converting to the dreaded Microsoft PC. Also a range of other Acorns A5000, 40000. No reasonable offer refused. South Birmingham area. Contact Mike on Mike.baggotthoc@talk21.com.

• OAP needs "OakDraw for Windows" to allow drawfile transfer to PC. As cheap as possible please. Reply to: john@hamiltonj51.freeserve.co.uk

• Little used, VERY well treated Printer and Video Interface Podule cw manuals, leads etc. 600dpi output. Works with everything from an Archimedes A340 to current RiscPC SA. (V4.0). Not being given the workload it is clearly capable of. A solid workhorse. Nearly new toner. Offers please to h.boyd@argonet.co.uk Buyer pays carriage.

• Surplus CDROMs Medieval and Tudor Hampshire reviewed issue 213. 400 copies £2k or smaller quantities negotiable. Contact david.bond@Hants.gov.uk Winchester Hants 01962846154.

• Clan optima NLE video system software and hardware package, has been unused. Can be upgraded in future requries SA RPC offers around £900 enquiries to aokai@tiscali.co.uk Merseyside area. K. Andersen - Tel 0151-547 3993

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Getting it together with USB

USB on RISC OS is a landmark in interoperability with peripherals available from different suppliers. It is a good thing for RISC OS suppliers in that drivers have to be written. But there is a downside.

It won't have escaped your notice that the RISC OS market could be bigger. This is a critical factor in the development and sale of USB drivers and hardware in our under-sized market. The way USB is designed drivers can be tied directly into specific hardware products.

The limited market and suppliers means that it is very easy for a dealer to take a specific product, let's say Sirius Cybernetics Corporation SCC-1705A digital widget and write a driver that only works with that specific make and model.

Why? He's not going to write a generic digital widget driver (which is entirely possible) because it can be copied ripped off and, even if bought, once it's been bought it can be used with any digital widget. You, the customer, don't have to buy from him again.

But if he makes the driver model-specific then if you want to upgrade you must come back to him, even though, for him, the changes to make a new driver to work with the SCC-1706A digital widget is two minutes work.

He can also charge a premium on the hardware price because you want to buy a RISC OS product, and will be willing to pay over the odds for it.

Unfortunately this is quite bad news. There are many mass storage USB products on the market but only one company will be producing drivers for mass storage products and they will be drivers only for the products he sells. You won't have a generic one so can't buy any USB mass storage device and plug it in.

You might say, well why don't the card manufacturers write them? Well from their viewpoint they are assisting their partners in the market place by letting them have the monopoly on widgets (or whatever). And they are right in a very limited and short-sighted way.

Of course it won't do any good in the long run. Given this state of affairs, and the fact that both card companies have made their card APIs generally available, it doesn't take a genius to write the necessary generic drivers and release them into the public domain.

It is also short-sighted. Take the scenario of someone considering a move to RISC OS from the PC or Mac markets, they are told "yes RISC OS has USB" and then they are told "but you can only use this limited range of products dictated by these companies with monopolies".

What's the reaction to that going to be? It's self-defeating and short-sighted. And that's being nice about it.

Rob Donaldson
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USB-ing technical

Continuing from last month let us look how a typical USB is implemented and how all the different software and hardware parts fit together.

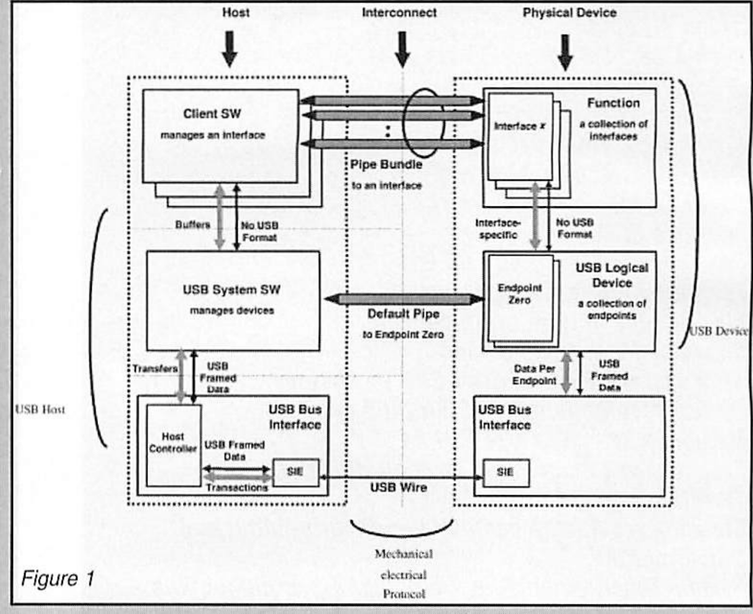


Figure 1

Figure 1: USB Host/Device Detailed View

The USB system software is responsible for collecting and buffering the data transfer requests from the client applications running on the host computer before passing them to the USB host controller (HC) driver. In the diagram below, the client application communicates with the USB driver and associated host control software which uses the HC Driver to talk to the host controller hardware.

This HC driver provides a high level of hardware abstraction so that neither the applications or the USB system need to know anything about the actual hardware used to drive the bus. This allows many different types of host controller (or multiple controllers) to be used without the need to completely rewrite the USB software each time, be it for a podule, ISA card, PCI or embedded controller.

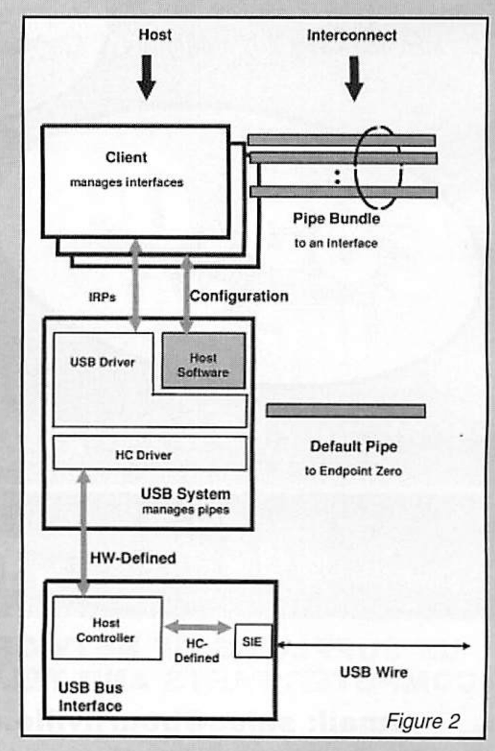


Figure 2

Figure 2: Host communications

Thanks to Simtec for allowing us to reproduce parts of their Web site in this and the last issue.

Dr Wimp in practice, part 5

Continuing with the pattern established in the earlier articles, this article will start with !MyApp5 as we left it last time and develop it further. Also as before, we will start by copying and renaming !MyApp5 to become !MyApp6 and actually start with that, and the Acorn User Web site has a copy of this all ready to go, in the folder StartApp5.

Most Wimp applications have a need to let the user load in data from a stored file and/or to save data from the application to a file, both normally using drop'n'drag actions. Dr Wimp provides simple-to-use facilities for these operations and this article shows how to use them.

Loading files

The usual way to load a file into a Wimp application is simply to drag the file to one of the application's windows (or possibly to a specific icon in that window). Alternatively, for some applications, double-clicking on a file icon will automatically load that file's data into the application.

Further, we have said a 'file' in the previous paragraph, but sometimes it can be a directory, or even another application, that is dragged.

All of these cases are handled by Dr Wimp via just one user-function:

```
DEF FNuser_loaddata(path$,window%,
icon%,filetype$,workx%,worky%)
```

The vital two facts to note are that:

Whenever a file, directory or application is dragged and dropped onto a window (or iconbar icon) of a Dr Wimp application, this user-function is automatically called.

Similarly, whenever a file, directory or application is double-clicked while a Dr Wimp application is running, this user-function is automatically called.

When called, the parameters carry 'live' values, as follows:

path$ is the full pathname of the file, directory or application that has been dragged or double-clicked (the 'source object').

window% is the window handle where the drag ended. It will be 0 if the file, directory or application was double-clicked rather than dragged.

icon% is the icon number of the icon where the drag ended. It will be -1 if no icon is involved, or if the file, directory or application was double-clicked rather than dragged.

ftype$ is the filetype of the source file, directory or application, as a string e.g. for files it will be the upper-case string of the three character hexadecimal filetype (e.g. "FFF" for a text file) but for directories it will be '1000', and applications will be '2000'.

workx%,worky% are the work area coordinates (in the window **window%**) where the drag ended. (These will both be -1 if the file, directory or application was double-clicked rather than dragged.)

Hence it is easy to distinguish between a dragged or a double-clicked source file, directory or application and also between drags to different windows and/or icons.

The return from DEF FNuser_loaddata(), which is either 0 or 1, is very important, because it is used to tell the Wimp whether or not your application is going to make use of the dragged or double-clicked file.

The default return from FNuser_loaddata() is 0 and, in practical terms, this return means "This application is not interested in that dragged or double-clicked file."

Conversely, if the return is made to be 1 it tells the Wimp "This application wants to use the dragged or double-clicked file."

Hands on

For our developing tutorial application, we are first going to extend it so that if the user drags a text file to either one of the writable icons in the main window the first 24 characters of the text file will appear in that writable icon, which is simple data loading.

We start by loading a copy of the !RunImage from our new !MyApp6 into a Basic editor and finding DEF FNuser_loaddata(), which we then modify to look like this:

```
DEF FNuser_loaddata(path$,window%,
icon%,filetype$,workx%,worky%)
LOCAL return%,maxlength%,file%,string$,
count%,char%
return%=0
maxlength%=24:REM** Arbitrary value, but
must be less than 33 so as not to exceed
max indirected size in icon definition.
**
CASE window% OF
WHEN main%
CASE icon% OF
WHEN 3,6:REM** Icon numbers of the two
writable icons **
CASE ftype$ OF
WHEN "FFF"
file%=OPENIN(path$)
string$=""
count%=0
REPEAT
char%=BGET#file%
string$+=CHR$(char%)
count%+=1
UNTIL count%=maxlength% OR EOF#file%
CLOSE#file%
PROCwimp_puticontext(window%,icon%,strin
g$)
return%=1
ENDCASE
ENDCASE
ENDCASE
=return%
```

Then save the !RunImage and try it out by dragging any text file to whichever writable icon is enabled.

The added routine is pretty straightforward. Firstly we narrow things down to the right window and icons, then we eliminate everything except text files (filetype &FFF). If the dragged file passes all these hurdles we simply open it and extract the first 24 characters (or less if the file ends before then) to insert into the appropriate writable icon. Finally, in these circumstance only, we set the return value to 1.

You will appreciate that we could have equally well done any number of other things with the dragged file instead of our simple extraction of the first 24

characters. However, the same simple process would apply.

Saving files

'Drag and Drop' saving usually involves using the standard 'Save' window, as shown, although, of course, a different file type and default leafname may be used.

Dragging the file icon starts the saving action and also locates the 'destination directory', and the writable icon needs (at least) a leafname for the dragged file. Alternatively, saving can be actioned by pressing the OK button, in which case the writable icon needs to hold a complete filepath. The Wimp provides the usual warning messages if the writable icon is not sufficiently filled.

Dr Wimp supports this standard method and although more than one user-function is needed things are nonetheless still easy.

The first thing we need is a 'Save' window and if you have been following this series you will recall that such a window already exists in the StdTmpl file but we haven't yet used it.

The three user-functions involved in data saving are:

FNuser_savefiletype, to tell Dr Wimp what filetype to use for the saved file.

PROCuser_saveicon, to tell Dr Wimp the icon numbers of the key 'Drag', 'Writable' and 'OK' icons in the 'Save' window.

FNuser_savedata, to carry the actual saving code.

As with FNuser_loaddata, the return from FNuser_savedata is very important and in this case can be either 0, 1 or 2, which will be fully explained later. Note also that this user-function has a unusual 'empty' state, which is also covered later.

There is no reason why you cannot use any window as a 'Save' window, but, as a bare minimum, it must have three icons to act as its 'Drag', 'Writable' and 'OK' icons.

Taking the three user-functions in turn:

```
FNuser_savefiletype(window%)
```

This is used in the same way as FNuser_menu, the return from the function is used to tell Dr Wimp which filetype to use with which 'Save' window (there can be more than one 'Save' window). So a typical routine would be:

```
DEF FNuser_savefiletype(window%)
LOCAL return$
return$=""
IF window%=save% THEN return$="FFF"
=return$
```

This effectively identifies the window with the handle **save%** as a 'Save' window and tells Dr Wimp that the filetype &FFF is to be used for the saved file. You could have additional 'Save' windows each with their own window handle and saved filetype.

```
PROCuser_saveicon(window%,RETURN
drag%,RETURN write%,RETURN ok%)
```

This user-function is used to confirm the icon numbers of the three key icons in the 'Save' window(s). Note the use of RETURN with three of the parameters.

When the application is started Dr Wimp sets the variables drag%, write% and ok% to default values of 0, 1 and 2 respectively and uses these variables to hold the icon numbers of the three key icons in any 'Save' window.

If you ensure that the icon numbers in your 'Save' window are the same as these default values, you can leave this DEF PROC empty. However, if your 'Save' window(s) use different numbers for these icons you must tell Dr Wimp here. In that case, a typical usage might be:

```
DEF PROCuser_saveicon(window%,RETURN
drag%,RETURN write%,RETURN ok%)
IF window%=save% THEN
drag%=16:REM** Actual icon number of
draggable icon in window 'save%' **
write%=2:REM** Actual icon number of
writable icon in window
'save%' **
ok%=5:REM** Actual icon number
of 'OK' icon in window 'save%'
**
ENDIF
IF window%=anothersave% THEN
drag%=1:REM Different 'Save'
window, different icon numbers
**
write%=22
ok%=3
ENDIF
ENDPROC
```

The action of the RETURNs in the function parameters will then return the new values for Dr Wimp to use.

```
FNuser_savedata(path$,window%)
```

This is the user-function in which the actual saving action is carried out.

path$ is the full path string of the destination file. (It will either be the dragged destination directory with the 'write' icon leafname added, or the full contents of the 'write' icon if 'OK' was pressed.)

window% is the handle of the 'Save' window from which the drag was started (or in which 'OK' was clicked).

A simple action coding might be:

```
DEF FNuser_savedata(path$,window%)
LOCAL ERROR
ON ERROR LOCAL =2
return%=0
IF window%=save% THEN
file%=OPENOUT(path$)
...
(write to file as required)
...
CLOSE#file%
return%=1
ENDIF
=return%
```

Apart from the opening two lines, which will be covered in a moment, there is nothing difficult about this routine, but an explanation of the difference between returning 0 and 1 is needed.

If 1 is returned, it says that the file-saving action has taken place and Dr Wimp can then automatically take the proper action to generate/respond to the Wimp's messages and also to ensure that the 'write' icon is updated with the actual save path. Further, it ensures that the saved file is given the correct filetype, as specified in DEF FNuser_savefiletype().

If the return is 0, Dr Wimp assumes that no saving action has occurred.

The sequence:

```
LOCAL ERROR
ON ERROR LOCAL =2
```

ensures that the function returns 2 if a local error occurs. The

intention is that this will only be activated if an attempt is made to save to a protected floppy disc or a locked hard drive. It is not intended as a local error to cover all possible sins within the function. Because of this, as the Dr Wimp Manual suggests, it is best to REM-out these two lines while you are developing your code in this user-function. Then re-instate them when you are happy with your code.

Hands on

To demonstrate file saving we are going to modify !MyApp6 so that we can open a 'Save' window from the main menu and save the contents of both writable icons in a new text file.

The first steps we need to take are:

(a) add:

```
save%=FNwimp_loadwindow("<MyApp5$Dir>.St
dTmpl","stdsave",0)
```

to DEF PROCuser_initialise, after the existing 'loadwindows' lines.

(b) change (also in DEF PROCuser_initialise):

```
menu$="Main menu/Top writable/Bottom
writable/Copy top to bottom/Copy bottom
to top/Clear top/Clear bottom/Clear
both"
```

to become:

```
menu$="Main menu/Top writable/Bottom
writable/Copy top to bottom/Copy bottom
to top/Clear top/Clear bottom/Clear
both/Save"
```

and, immediately after the line which creates mainmenu%, add:

```
PROCwimp_menudottedline(mainmenu%,7,1)
PROCwimp_attachsubmenu(mainmenu%,8,save%)
```

These actions add a "Save" item to the main menu (separated by a 'dotted line' for cosmetic improvement) and attach to this the save% window, as a sub-menu. You'll recall that window handles can be used instead of menu handles when displaying menus and sub-menus.

The save% window will now open when we slide the pointer across the arrow-head against the "Save" item on the main menu.

Re-save the !RunImage and try this out, but you'll get an error message if you try to use the 'Save' window at the moment.

We can now turn to the three user-functions described earlier above.

Make DEF FNuser_savefiletype() look like this:

```
DEF FNuser_savefiletype(window%)
LOCAL return$
return$=""
IF window%=save% THEN
return$="FFF"
=return$
```

There is no need to change DEF PROCuser_saveicon() in our case, because the icon numbers used in the window save% are the same as the default values, as mentioned earlier.

Finally we come to DEF FNuser_savefiletype(), within which our actual saving action coding must be placed. Make it look like this:

```
DEF FNuser_savedata(path$,window%)
LOCAL return%
LOCAL ERROR
ON ERROR LOCAL =2
return%=0
CASE window% OF
WHEN save%
file%=OPENOUT(path$)
string$="Contents of Top writable icon:"
BPUT#file%,string$
string$=CHR$(34)+FNwimp_geticontext(main
%,3)+CHR$(34)
BPUT#file%,string$
BPUT#file%,""
string$="Contents of Bottom writable
icon:"
BPUT#file%,string$
string$=CHR$(34)+FNwimp_geticontext(main
%,6)+CHR$(34)
BPUT#file%,string$
CLOSE#file%
return%=1
ENDCASE
=return%
```

All we have done here, after checking that we are dealing with a drag from our window save%, is to OPENOUT the file given to us by Dr Wimp in path$ and write a few strings to it with BPUT#, the key ones taken from the writable icons.

If you now re-save the !RunImage file and try out the new features by first dragging in a text file and subsequently opening the 'Save' window from the main menu and dragging its file icon to wherever you wish (or by clicking "OK" after entering a full save path in the usual way) you will be rewarded with a new text file telling the contents of the two writable icons.

Again, not rocket science, but it adequately demonstrates how simple and automatic saving is when you use Dr Wimp.

Final comments

A copy of !MyApp6 with all the changes made this time is in the folder EndApp5 on the Acorn User Web site. It will be the last article in the series and we will have a look at graphics.

Contacts

Download the Dr Wimp package from my Web site at:

http://www.argonet.co.uk/users/rayfavre/

and this site also contains details of my books "Starting Basic" and "Dr Wimp's Surgery" which are sold entirely for charity.

Email: rayfavre@argonet.co.uk

Exceptionally, printed versions of the separate panels missing from the first article of this series are also available on receipt of an SAE at the address below.

If you do not have Internet access then a copy of the latest Dr Wimp package can always be obtained by sending a formatted (1.6M) floppy disc and return postage stamps to:

Ray Favre, 26 West Drayton Park Avenue, West Drayton, Middlesex, UB7 7QA, U.K.



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New students for old

You can't have missed the government push on e-learning, what with initiatives such as the University for Industry, learndirect and UK Online. ICT has been packaged as a way to revolutionise post-compulsory learning for anyone wherever or whenever they choose. However, research from Cardiff University School of Social Sciences, argues that much of this is just hype.

The researchers examined data from nearly 6,000 households derived from the 2002 annual survey of adult learners, carried out by the National Institute of Adult Continuing Education.

Around one-third of adults have not taken part in any formal learning since leaving school. Online learning has been portrayed as a motivational tool for this sector overcoming problems of distance and travel. Yet only 1 per cent of respondents cited travel/transport as the chief barrier to their continued learning.

More worrying, 25 per cent expressed no interest in future learning, while 13 per cent said they were too old and 9 per cent expressed no need to learn. Then 6 per cent said they had not got round to it. This gives 53 per cent of non-participants who, if taken at their word, would be unaffected by access to learning opportunities via ICT.

So who is learning online? Arguably this is the group who would be learning anyway, the younger, employed, professional, male, qualified, already learners, who have access to the technology at home.

Researchers argue then that ICT does not make people more likely to participate which is at odds with much contemporary thinking. However, it is not all doom and gloom. Some older women from lower socio-economic groups were using computers to make their first steps into continued learning, and it can help to alter patterns of participation for some. But as the researchers conclude: "It should on no account be assumed to be a universal panacea to achieving a truly inclusive 'learning society'."

Virtually real

Let me introduce Seonaid. She is a university graduate with a cat called Napoleon and is passionate about conservation and the environment. Moreover, at 28 she's the glamorous new public face of the Scottish Executive. Hired at a cost of £155,000 her job is to explain the policies of the Executive to taxpayers through daily bulletins. But she's not real!

Seonaid is the latest personality in the Executive's mission to modernise government and is a computer-generated character who will appear on the government's main Web site. Complete with a full set of fictional biographical details, Seonaid has been created to give daily broadcasts in the style of a virtual newscaster.

The Scottish Executive are very keen on using the Web to promote, explain and education. But with disappointing results. The Healthy Respect Web site, which was launched in February with the help of Victoria Beckham as part of a £3 million campaign to provide sex advice to Scottish teenagers, has been almost completely ignored by young people. Which is a fate it has shared with the Think About It Web site launched by the Health Education Board of Scotland to combat binge-drinking among the young and advise on sexual relationships.

While the Know the Score a site against drugs and Learn to Let Go a campaign to persuade motorists to give up their cars have not been unqualified successes. Yet despite and because of this 'limited success' all of these make interesting source material for PHSE, Science, ICT, Citizenship and Literacy.

Children's civil rights

Has your school updated their library system? Do you and your children now take out and return books via a thumbprint? Are you violating everyone's civil rights?

The widespread fingerprinting of UK primary school children has been roundly condemned by watchdog Privacy International as children are being fingerprinted by schools, often without the knowledge or consent of their parents. The organisation has condemned the system as "dangerous, illegal and unnecessary".

Around 200,000 Primary and High School students have already been fingerprinted. Suppliers of Junior Librarian, Micro Librarian Systems, estimate that it is in use by 350 schools throughout the country and have plans to extend the system to cover registration.

Privacy International says the practice "de-humanises our children and degrades their human rights", and has called for the unconditional withdrawal of the technology from schools. An overreaction? Well, Simon Davies, a director at Privacy International added: "the use of such systems will have the effect of desensitising people to more comprehensive privacy invasion, such as ID cards and DNA testing, later in life".

Money for old rope

Primary teachers are famous for their collections of cardboard tubes, cocktail sticks and plastic of all shapes and sizes. But you might just be able to turn this to your advantage.

Following the precedent of a Buckinghamshire teacher who has been granted tax relief on the cost of preparing lessons and marking pupils' work at home you might find yourself a little better off.

While it's true that individual tax officials will have to decide what is applicable, the Revenue's general policy is that "the teacher has to be able to show that the duties have to be carried out at home, rather than as a matter of personal choice or individual circumstance".

You must explain why you need a computer, desk, filing cabinet and other equipment, and that your school does not provide them. When applying, quote the relevant tax law (ICTA s.198) and The Teachers' Pay and Conditions Act 1987, which says that teachers' duties involve "planning and preparing courses and lessons (including) the setting and marking of work to be carried out "in school and elsewhere".

This is reinforced by the then Department of Education and Science's Pay and Conditions Document (1987). Here it makes it clear that teachers have a statutory duty to work outside school, and should therefore be entitled to tax relief on the relevant costs. This means you could claim for part of the heating, lighting, telephone, decoration, council tax and water rates, desk, chair, and so on.

If you pay the costs of training and do not get reimbursed, the course fees, the costs of essential books and travel expenses may be tax deductible, if you can show that your employer is encouraging you to take the course to improve your skills. You can also claim tax relief on union subscriptions and other costs that are "wholly, exclusively and necessarily" incurred in the course of their duties. This covers items such as academic gowns, PE equipment and books used with sixth-formers.

So where now? First contact your local tax office and then look out for accountants who will submit claims on a no rebate/no fee basis.

Pam Turnbull
educ@acornuser.com

What did the Romans ever do for us?

Pam Turnbull continues her occasional series taking a specific curriculum area and reviewing the best resources available They may not have been on the top of Boudica's best friends list, but the impact of the Romans on our culture, language and landscape is unmistakable. As an area of study children will come across Romans at different ages depending on where they live. For most, however, these invaders are usually encountered in Year 3 where they are a rich resource across the curriculum.

It is also a topic which pleads for a computer, as this media can allow children not just to spectate but interact with different aspects of Roman life.

Soft options

There is actually less software now on the Romans than in previous years as the emphasis on curriculum spend has been directed at English and Maths, so there is no incentive to develop new history software. This means that what is left is not new, but it is still very good ...

ZigZag -The Romans

Supplier: Logotron, 124 Cambridge Science Park, Milton Road, Cambridge CB4 0SZ
+44 (0) 1223 425558
www.logo.com
Price: £37.00

Linked to but can be easily used independently of the Zig Zag TV series, Romans. You start with a detailed, 3-D view of a Roman villa in England, there is much work to be done, both in the villa and on the farm surrounding it and guess who's going to do it?

You can start anywhere in the villa, but as you explore you'll find yourself preparing a bath in the bath house for your master, collecting honey from the hives after luring the bees away, before completing an ornate mosaic floor in the Atrium.

You have to use the right tools and in the correct manner and this makes a good introduction to the topic with an information line to give you advice. It is also accompanied by a photocopiable activity book full of curriculum ideas.

Romans

Price: £45
Supplier: Granada Learning, Quay Street, Manchester M60 9EA
Tel: +44 (0)161 827 2927
www.granada-learning.com

Set in the town of Sapientum which is based on a second century AD Romano British town. As visitors to the town you have to opt for one of four careers: soldier, merchant, physician or tailor. Depending on your chosen trade you must collect the tools and knowledge needed. As you explore Sapientum you meet the other townsfolk, gathering objects and skills and discovering information on everyday life.

The CD-ROM incorporates the latest historical research to create an accurate computer model of the town so that pupils can experience the sights and sounds as if they were there. As you'd expect there are supporting photocopiable worksheets.

Journey in the Roman Empire

Price: £24.99
Supplier: British Museum Press, 46 Bloomsbury Street, London WC1B 3QQ
Tel: +44 (0) 20 73231234
www.britishmuseum.co.uk

Enter the world of ancient Rome by choosing to join any one of four characters on a journey through the Empire: a Roman merchant, the Emperor Hadrian, the Palmyrene, Barates, or the Christian, Saint Melania.

The program features a collection of artefacts from all over the Roman Empire, including ones to be seen at the British Museum and Verulanium Museum in St Albans. This makes it a good research tool.

Journeys Into History

Price: £69.95
Supplier: Granada Learning, Quay Street, Manchester M60 9EA
Tel: +44 (0)161 827 2927
www.granada-learning.com

This CD-ROM takes pupils on a visual visit to Hadrian's Wall, Lindisfarne and the cities of Durham and Darlington. Wider aspects of British history are explored through each journey and provide the opportunity to *investigate* the Roman occupation of Britain, early Christianity, Medieval times and aspects of Victorian life. During each journey, pupils are asked to find information and imagine how people felt during those times. Alternatively, they can just use each journey as a rich source of reference material for their own research.

The disc is home to photographs, archive documents, animation, video, audio and text. Major historical topics are cross-referenced to other areas of the UK. Text levels can be set to either easy or hard, and an Ideas section provides teachers with suggestions for off-disc activities that encourage independent study. The material included on the disc supports research into changing ways of life, art, conflict, religion and buildings. Search utilities and a Glossary provide easy access to areas of interest.

Web work

So where did all the research, resources and historical know-how go? On to the Web of course. It's cheaper to publish and update and it makes a lovely teaching tool, especially if your interactive whiteboard is linked to the Internet.
Where to go first ...
www.bbc.co.uk/schools/romans/
This BBC site is linked by content, though not by format, to the Zig Zag TV broadcast. Colourful and well presented you can choose from a menu of topics which presents information, images and fun facts as well as a quiz. You can access information on: the city of Rome and the Empire, invasion, rebellion, defence of Britain, the army, roads and places, leisure and families and children.

Along the side are other tools to choose. Opt for activities and you'll find: dressing for battle, problem pots, festival fashion, terrible tombstones, create a dice, shopping and spending, create a dice and a pocket money pouch. In essence these are printable information or instruction sheets which provide resources allowing you to link

to other areas of the curriculum. For instance, the pouch can be used as part of the Design and Technology topic for Year 4.

Other tools are the Glossary which gives information on amphitheatres to wreaths. Then there's a graphical timeline, but my favourite is the resources button which provides a list of Roman Emperors, a downloadable 3D reconstruction of Housestead's Fort near Hadrian's Wall, as well as a link to Walk Through Time an interactive BBC Web site allowing you to explore streets, culture and houses and yet another link to Romans in Scotland where you can explore a Roman fort and a Caledonian village.

A Web Guide provides links to relevant sites, and this is updated regularly. I also liked the summary and details of books relevant to teachers and children for further research, such as A Visitor's Guide to Ancient Rome by Lesley Sims (ISBN 0746030649) published by Usbourne at £6.99. Imagine you are planning a trip to ancient Rome and you need a book packed full of information including a detailed map of the city to help you find your way round. Then this is it.

Cross curriculum links

You can use the computer and Internet as a research tool and the simulations feed into the Year 3 ICT QCA scheme of work quite well. But there is a way to combine, art and design with ICT and the Romans. Enter the mosaic.

There are many mosaic Web sites to explore as well as designs to follow and other people's experiences and techniques to copy, such as www.pyrrha.demon.co.uk/kmosaic1.html

There is also a program which can be downloaded called Mosaic 2000, www.imagtomosaic.com/downloadmosaic.html, which prints the tile laying plan for guiding the mosaic building. You can take an image and convert it into a mosaic with each colour corresponding to a number or symbol. You then print of the list of tiles you need to buy.

Places to visit

Rome - Republic to Empire

www.vroma.org/~bmcmanus/romanpages.html

Overview of the history and civilisation of the Roman Empire. Suitable for GCSE and A-level students

Roman Times

atschool.eduweb.co.uk/nettsch/time/romans.htm

Aimed at Key Stage 2, this is a fun site containing information about the Romans, their lives and significant events

Archaeology and Ancient History - Roman

www.bbc.co.uk/history/ancient/romans/index.shtml

A snapshot of Roman life at the fort of Vindolanda on Hadrian's Wall. What Roman life was like and what filled the void after they left ...

Pam Turnbull
educ@acornuser.com

Boost for schools to acquire Interactive Whiteboards

Schools and Colleges throughout the United Kingdom are taking advantage of a nationwide initiative, designed to substantially reduce the cost of acquiring interactive whiteboards.

Through corporate sponsorship, interactive whiteboards are being made available to all educational establishments at heavily reduced prices. The Interactive Whiteboard for Education Initiative is the brainchild of Go Education plc, which specialises in audio visual educational and learning resources. Through the Initiative, Go Education is able to give schools in the UK an unprecedented opportunity to acquire highly effective interactive teaching solutions at a very affordable cost. Despite the attractive price tag, though, nothing has been compromised.

Interactive whiteboard technology is now regarded as an essential tool for the digital classroom, a fact recognised by the Government in its vision of the classroom of the future.

Trials have already shown that this technology greatly enhances pupils' learning and performance, and with the initiative, classroom teaching is poised to enter a whole new level.

Teachers are able to use interactive whiteboards to deliver pre-prepared lessons, and to freely write and draw during lessons. They can do this over the top of, or alongside, any number of electronic presentations, video clips, or educational software packages, all of which results in time saving and greater effectiveness in teaching.

The technology has been heralded as significant for schools and pupils alike, and has been welcomed by key figures in education in the UK. Peter Frost, Chief Executive of the National Primary Trust, summarises: "Clearly, the whiteboard technology when used as a tool for learning has exciting possibilities, and it is encouraging that this has been recognised by the Government."

Ms Swanton, ICT Coordinator at St Mary's RC Primary School, who have already adopted this technology, summarises, "Right from the start the children were enthusiastic, which encouraged them to produce work of a high standard. It has been an absolute revelation for children with special needs. I am intending to purchase more boards next term and highly recommend them to any school. In time, this technology will replace all the conventional blackboards and whiteboards."

Go Education Chairman Pranlal Sheth, CBE says, "We are genuinely excited about what this technology can do for schools. We recognise that schools and other educational establishments are constantly working within tight budgetary constraints. The company is therefore thrilled to be launching The Interactive Whiteboard Initiative to schools as part of its commitment to support the government's mission to bring industry and education closer. "

There is a choice of 60" or 75" whiteboards. Go Education is also able to provide complete installed solutions including projectors and notebook computers with various finance options. The latter includes rental if you are truly pushed.

For a free information pack, call Go Education on 020 8795 3882 or visit their website at www.goeducation.co.uk where you will also be able to enter a free prize draw to win a 75" TDS ACTIVboard.



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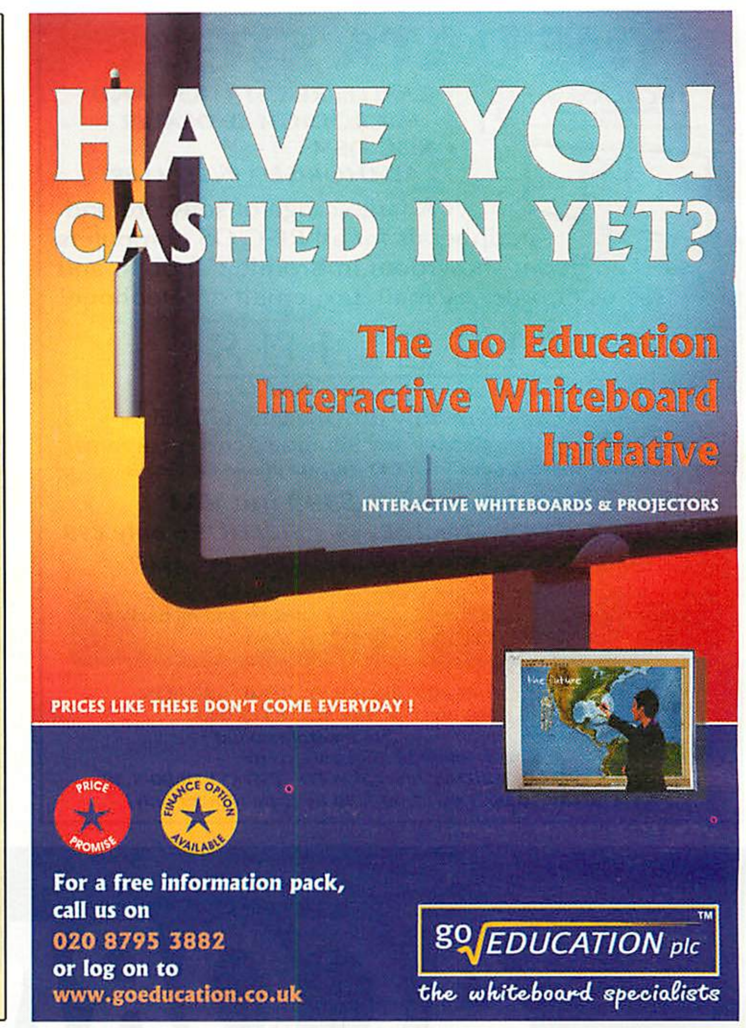
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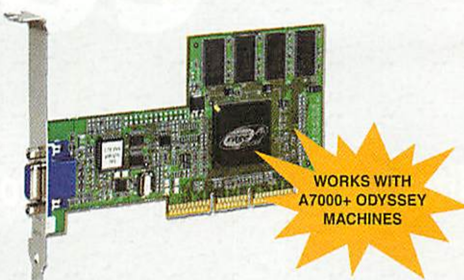
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256	1280 x 1024 @ 80 Hz	2048 x 1536 @ 72 Hz, 1920 x 1440 @ 76 Hz, 1600 x 1200 @ 91 Hz

ViewFinder is available direct from Windfall Engineering, or contact your preferred RISC OS dealer.
For further information and technical specifications, please visit the Windfall Engineering web site.



Windfall Engineering



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USB on the farm

I read your USB article in the July issue of Acorn User with much interest. My own 1Wire network is getting rather complex. My latest development is to make every door on my smallholding, domestic and agricultural, centrally locked from a single location using an iButton key.

It is not finally in place yet, but as I rebuild my barns and tractor shed, a local engineer is building me steel doors which I can lock much more easily than the old wooden doors they replace. I have developed a locking system based on 12V car central locking system solenoids which shoot a bolt at each door, and it works very well.

Close to my kitchen door (the front door is rarely used, as there's no place for wellies) I have an iButton socket which leads back to the main branch of a DS2409 coupler, which is part of my network. If anything is inserted into the socket, the coupler signals this to the net master, which can then interrogate that branch line. If the iButton inserted into the socket is recognised by the computer, it opens the auxiliary branch of the coupler and toggles the doors open or closed.

In addition, I have totally redesigned the control power supplies to the network (12V, 10V, 5V) all to run off a 12V battery which is continually topped up by a float charger. The battery also allows the short pulsed high current to the solenoids.

The whole procedure is quite involved, and I would be happy to explain what goes on in much more detail if you like, but that is not the point of this message.

The only thing that is stopping me from splitting my 1Wire network into multiple applications is that they each would have to monopolise the serial port. As a result, the main loop in my app has to keep breaking off to check the status of the door coupler, and if it is doing something complicated, it is possible for someone to have to wait several seconds with their iButton in the socket before it is detected.

However Dallas/Maxim make USB/1Wire interfaces, and coupled to the four-port USB cards now coming on the market, things look a bit more promising. The 'only' problem is one of drivers.

There must be hundreds (thousands?) of enthusiastic amateurs like me who are using the !SerialDev block drivers in their BASIC/whatever code to communicate via the serial port to their hardware.

Wouldn't it be nice if there were a USB equivalent that could be used instead? The obvious obstacle (to my layman brain) is that whereas with the serial port you simply chuck information at the port and receive all that comes back, with USB something has to differentiate between all the different devices that might be on the USB net.

However, I'm sure that someone clever out there could write a generic !SerialDev-like USB driver which we could then use in our own amateur creations.

It would mean that everyone who (like me) is having to use data switches on their serial ports and then letting out foul expletives every time they forget would all rush out and make USB on RISC OS an overnight success.

Robin Hampshire
by e-mail

The Castle USB uses the standard DeviceFS interface so it should be relatively easy to implement the kind of thing you are talking about. Time will tell.

USB peripherals

The one thing that has been worrying me about my RPC lately is peripherals. If my parallel printer died I was going to be in trouble, because nowadays you can pretty much only get USB printers (or anything else) here in Japan.

Now we have a multiplicity of USB cards all of a sudden, which is wonderful, but now we have much talk of a lack of drivers.

Speaking from profound ignorance of the subject, I am intrigued by my sons' experiences of USB installations on their new iBooks (they went the PowerBook route years ago because the A4 just wouldn't cut it, although they still prefer the feel of RISC OS, yes, even compared to Mac OS X).

Each USB device comes with a CD full of drivers which, when inserted into the drive invariably produces a message to the effect of: "You have Mac OS X, throw this CD away, plug the unit into the USB port, and use it". So they throw the frisbee, I mean CD, away, plug in, and whatever new toy runs, "justlikethat".

Now, I'm sure that even the Great God Jobs is neither omniscient nor prescient, so I'm left wondering if there's something he knows about USB that Mr Gates and the RISC OS fraternity don't. Surely Apple haven't programmed every single last USB device into OS X, so maybe they have found some generic trick. If they have, then surely any OS can play the same game, or am I mistaken?

By the way, on the subject of Logitech meeces, their 3-button "Linux" mouse when plugged into the serial port of a RPC works a treat. Typical Acorn, you tell the machine what it's got (Microsoft serial, actually), and it uses it, nicely, straight off, no re-boot of course.

The mouse is a good shape, too, at least for my hand. (However, 95 per cent of the mice on the shelves here are USB...)

Michael Poole, Japan
by e-mail

The way USB works is that peripherals are split into classes and you can have a generic class driver. As Apple is a single manufacturer it can afford to have the class drivers written and then loaded into any machine it makes.

In the PC market the desperate effort to keep prices down means that no company is likely to pay for standard drivers and then include them. Easier to let the manufacturer supply them. At least, that's our guess.

Too late for some

With regard to your editorial in the July issue I would make the following comment: It is not too late for business to "stick up two fingers" to Microsoft (though I find the phrase juvenile, please can we leave the kindergarten before we decide to conduct a debate?) it is too late for schools.

The DFEE having, effectively, been bought out by Microsoft the government is now effectively insisting that we all use Microsoft. What has happened is that Microsoft have established centres around the country for people with no experience to learn how to use a computer free of charge. It stands to reason they're going to use their own OS.

At the end of this year we are having a new network installed and, much as I don't want to, I am having to install bogstandard PCs running Windows as the vast majority of software for the RISC OS primary education market has dried up.

This is sad as education software (and hardware) used to be Acorn's back garden. The software producers are now moaning that they fear the new BBC online resources initiative will steal their markets using muscle alone. Where were they when Microsoft decided to do this to the operating system market?

You can't have it both ways.

Perhaps it's time for us, like the French, to organise a protest against the Americanisation of our culture and (in this case) our computer systems?

Christopher Price
Bursar, Merton Court School, Sidcup

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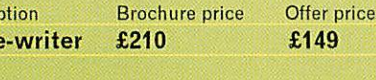
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